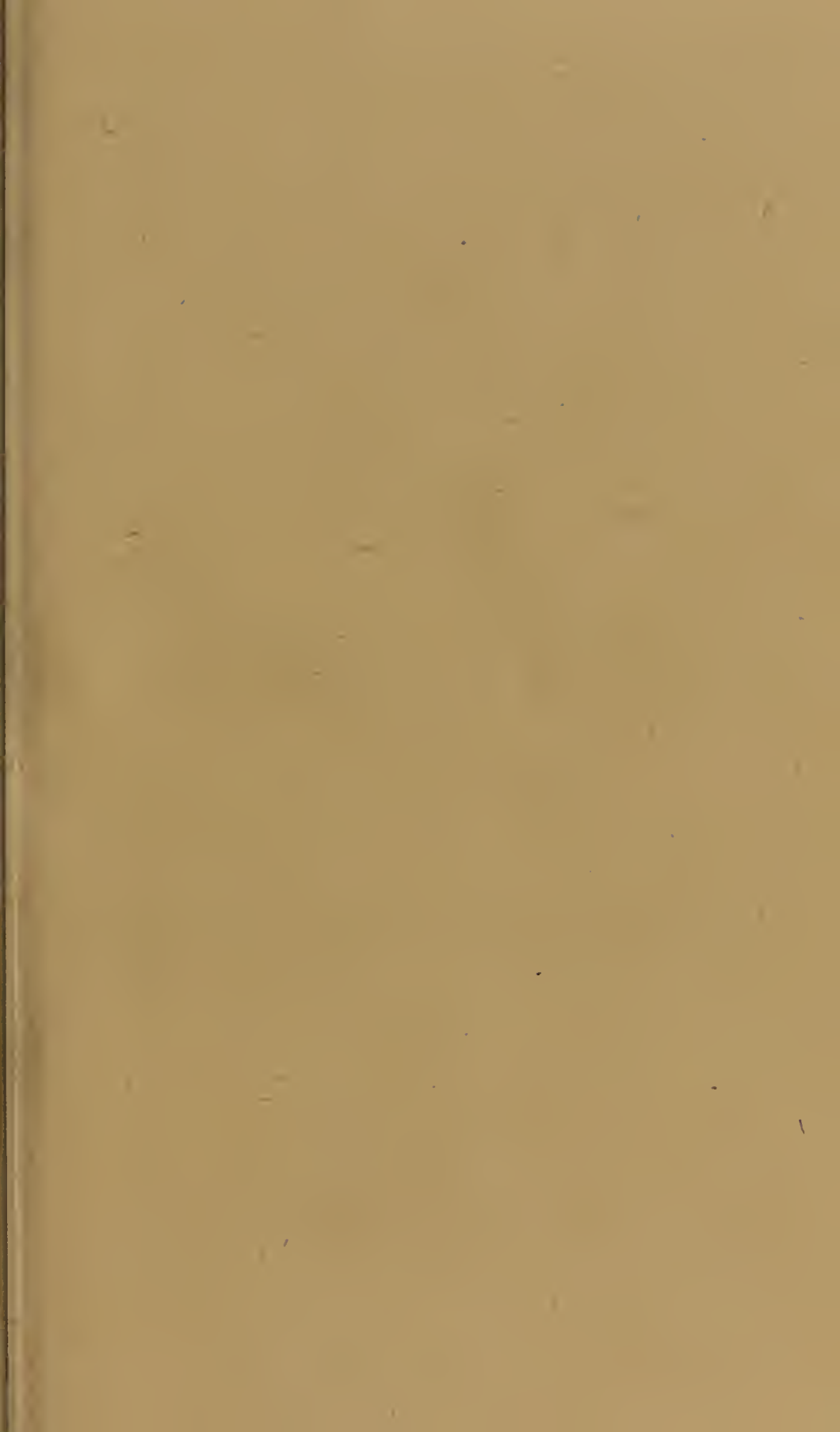


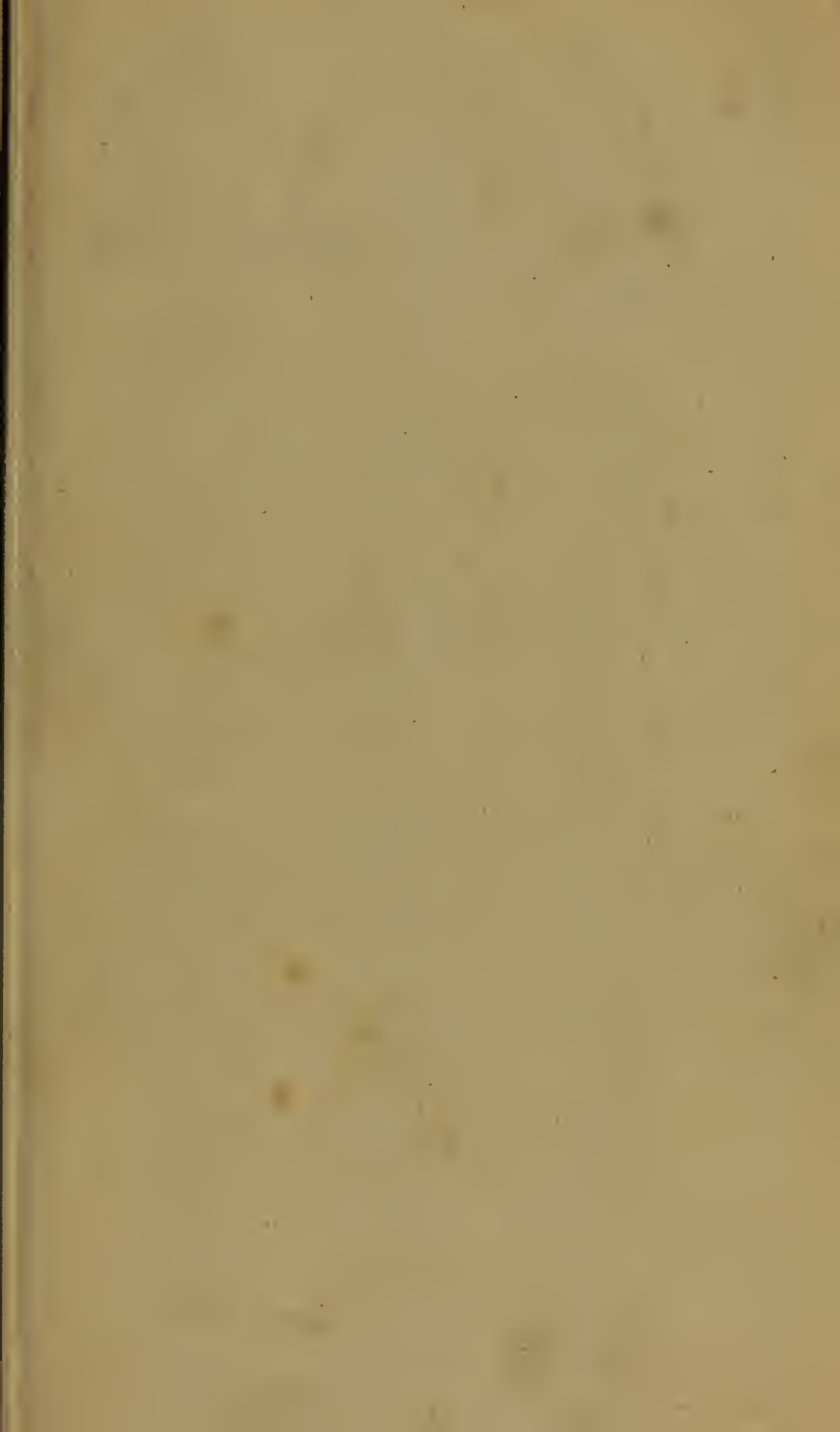
55065/B

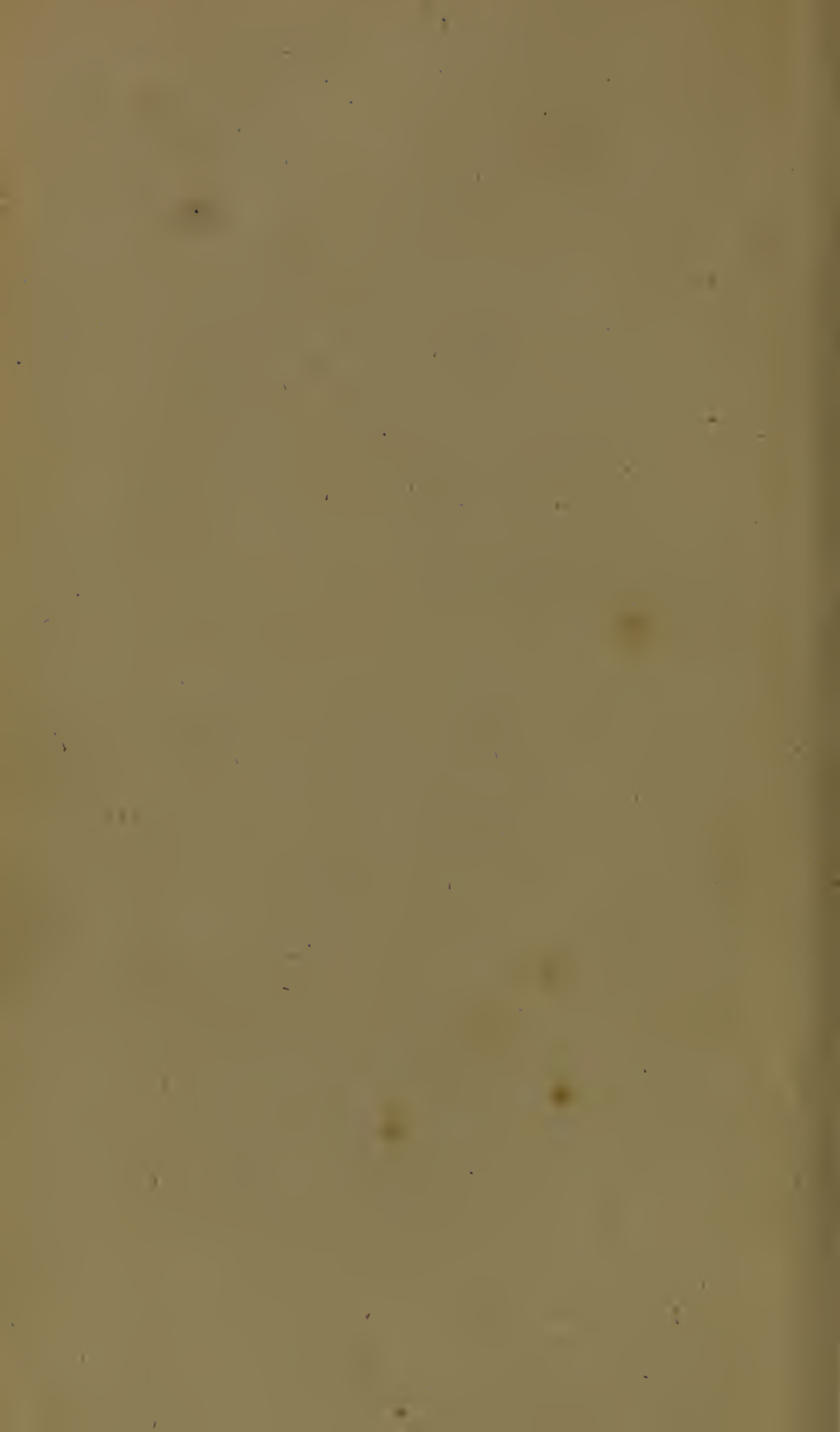
Vol. 1





21:00 4758





To
Miss Boulton
from her friend



The Author

A

BOTANICAL ARRANGEMENT

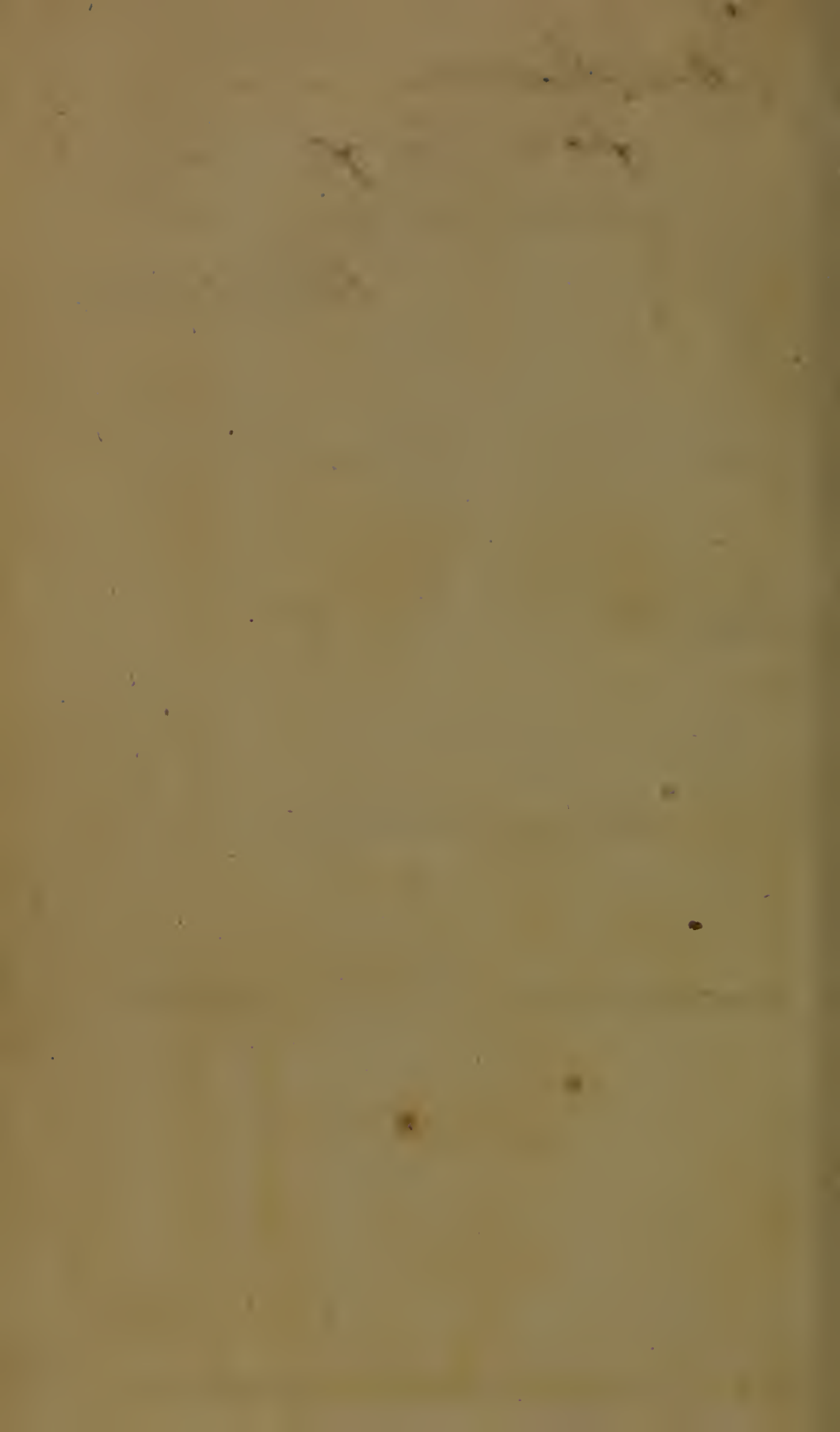
O F

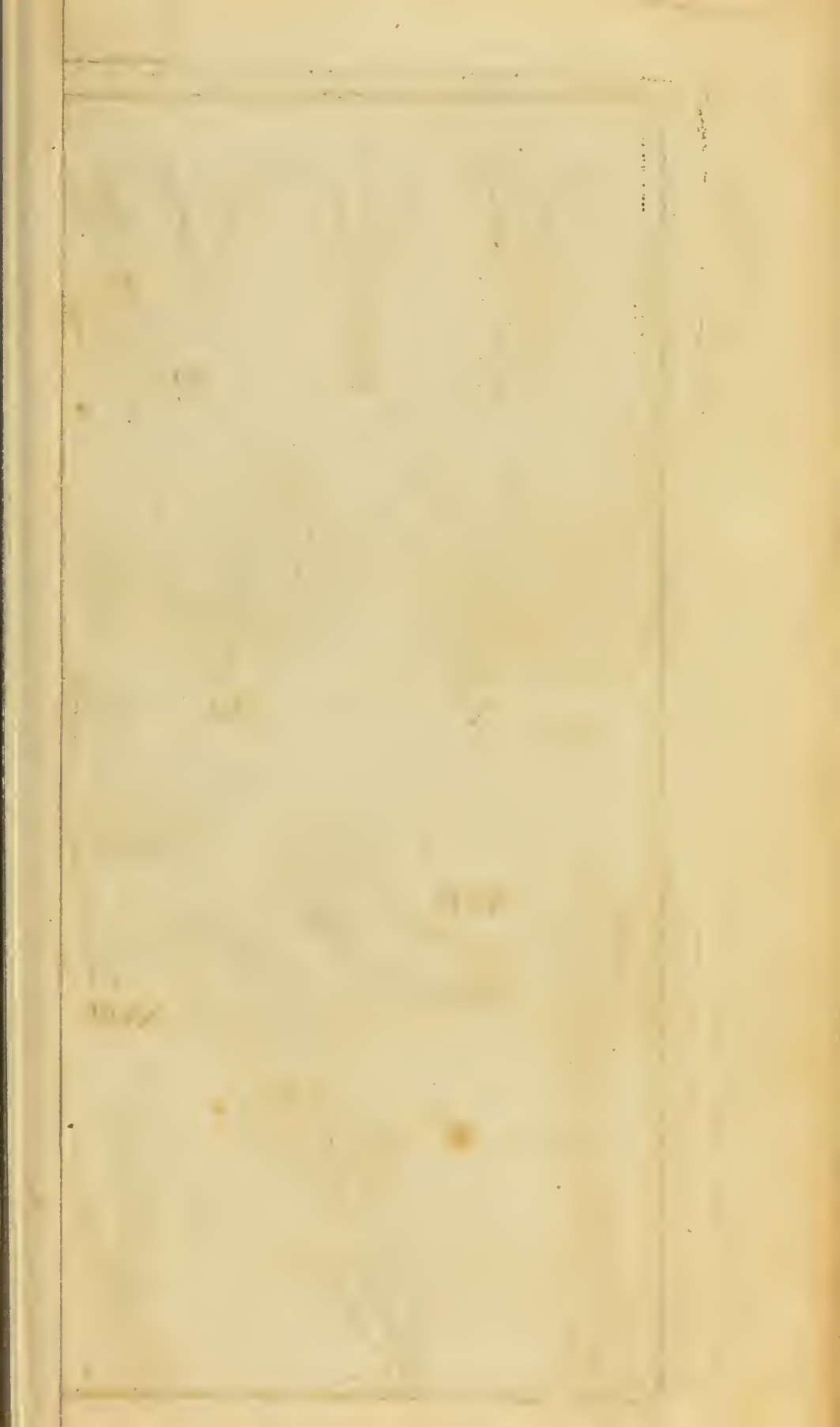
BRITISH PLANTS.

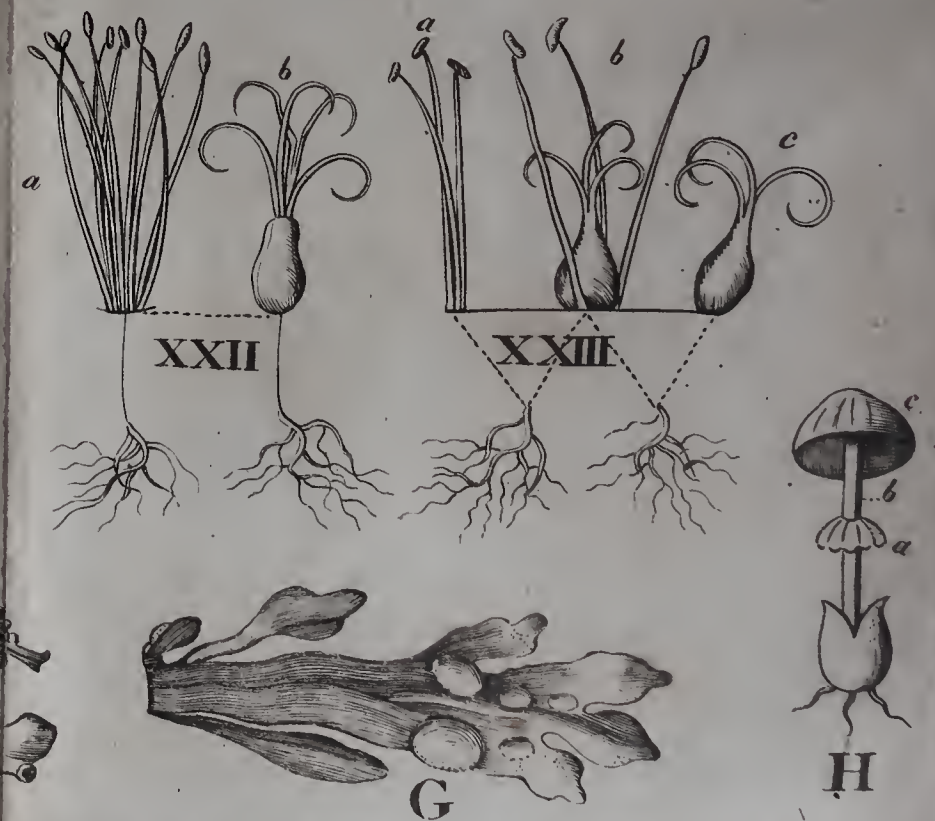
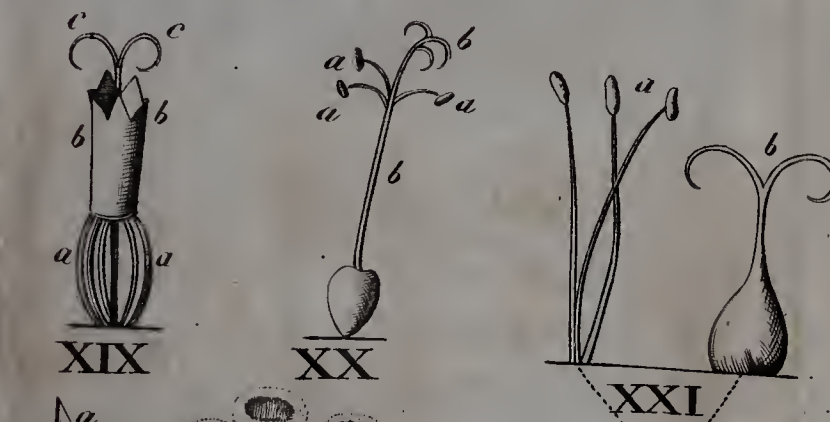
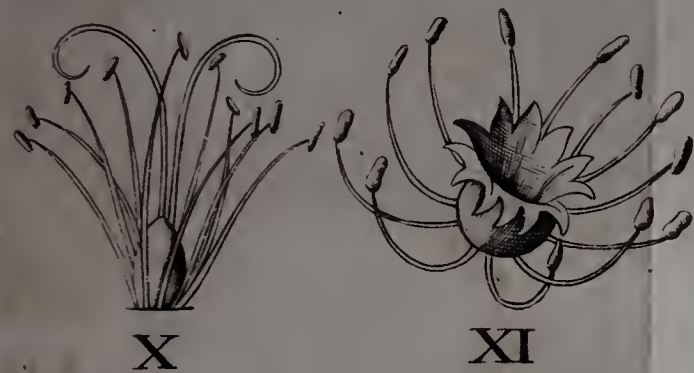
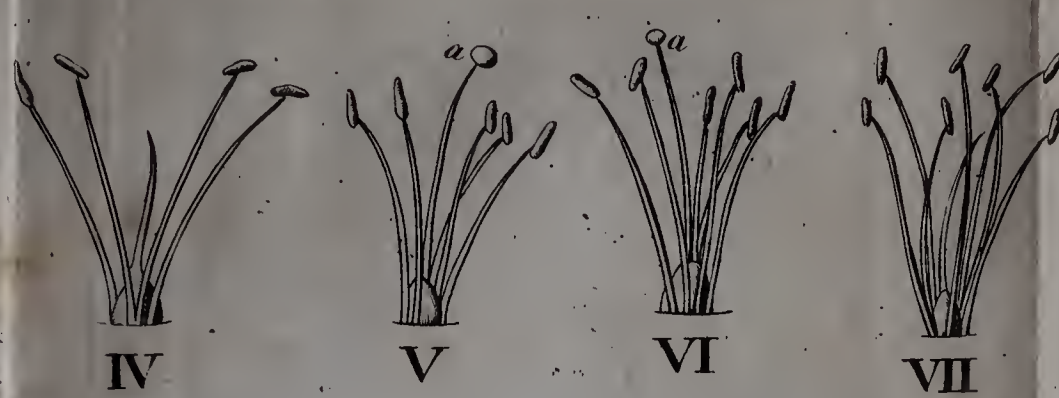
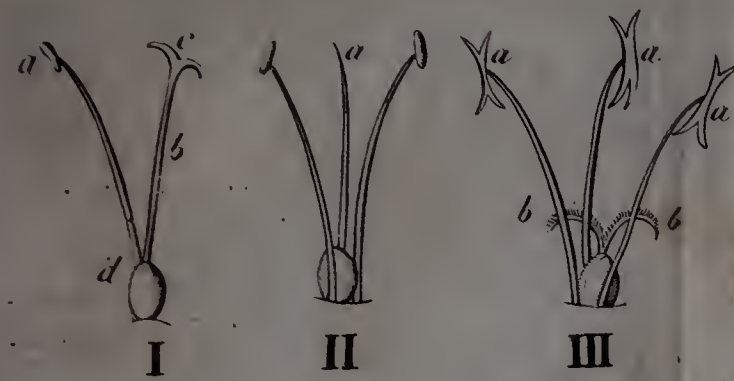
V O L. I.

THE SECOND EDITION.









A
BOTANICAL ARRANGEMENT
OF
BRITISH PLANTS;

INCLUDING

THE USES OF EACH SPECIES,

IN

MEDICINE, DIET, RURAL ECONOMY AND THE ARTS.

WITH AN EASY

Introduction to the Study of Botany, &c. &c.

ILLUSTRATED BY COPPER PLATES.

THE SECOND EDITION.

By WILLIAM WITHERING, M.D. F.R.S.

MEMBER OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH, AND
PHYSICIAN TO THE GENERAL HOSPITAL AT BIRMINGHAM.

INCLUDING

A NEW SET OF REFERENCES TO FIGURES.

By JONATHAN STOKES, M.D.

LATE PRESIDENT OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH,
CORRESPONDING MEMBER OF THE SOCIETY OF ANTIQUARIES
OF SCOTLAND; PHYSICIAN AT KIDDERMINSTER.

V O L. I.

BIRMINGHAM: PRINTED BY M. SWINNEY;

FOR G. G. J. & J. ROBINSON, PATERNOSTER-RROW,
AND J. ROBSON, NEW BOND-STREET, LONDON;
J. BALFOUR, AND C. ELLIOT, EDINBURGH.

M,DCC,LXXXVII.

P R E F A C E.

AT length the second Edition of the BOTANICAL ARRANGEMENT makes its appearance. The Author pleads in excuse for its long delay, the multiplicity of his own professional engagements, and the very great improvements, both in the plan, and in the execution of the work. Being conscious of the unavoidable imperfection attendant on a first attempt to naturalize this science, which, in its improved state was new to the English language; he requested the assistance of others. He is happy to have experienced that approbation of his design, which called forth the

Vol. I.

a

assistance

assistance he sought for; and the effort of naturalising the doctrines of the Linnæan School of Botany, has been crowned with a degree of success beyond his most sanguine expectations.

From the very liberal assistance he has met with, the work is now risen superior to its first institution, aiming at very essential improvements in that branch of Science, which, at first, it only attempted to render more easily accessible. It may therefore be necessary to enumerate some of the more striking features of the present Edition.

The Translation of the Generic and Specific Characters has been compared with REICHARD'S Edition of the Genera and Species plantarum, and the *numbers* of those editions have been adopted.

THE ESSENTIAL GENERIC CHARACTER is subjoined to each Generic description, and the ARTIFICIAL character is retained at the head of the Class.

The particular places of growth of the rarer plants are carefully enumerated, and
many

many new ones are added, which are included between crotchets. This has been done at the request of several friends to the work; their opinion prevailing against the reasons adduced for omitting them in the first Edition *.

The Reader will find in this Edition several species, and many varieties of plants, unnoticed by Linnæus. The Varieties of preceding authors are marked by Greek letters; those peculiar to this work by Arabic numerals.

The Latin Synonyms of Bauhine, Gerard, Parkinson, and Ray, which occupied so much space in the first edition, are now omitted; partly because they could be of little use to those who do not understand

* Mr. Woodward, to whom the readers, as well as myself, are indebted for many improvements, in almost every page of this work, and whose liberality of sentiment is only equalled by his industry and accuracy in botanical investigation, desires me to observe that the *Habitats*, or native places of growth, in the Northern Counties of England, which stand in his name, belong jointly to himself and Mr. Crowe; the plants having been collected in a journey they took into those Counties, in the summer of 1781.

the Latin language, for they who do, may get the references from HUDSON'S *Flora Anglica*; and partly to make room for a new set of references to figures, which my friend Dr. Stokes undertook to furnish. These references make one of the most valuable parts of the present Edition. Nothing short of his extensive knowledge of the subject, joined to an indefatigable industry, could have effected the reformation required; but the full force of his exertions will only be understood by such as have laboured at the subject themselves, and experienced the difficulty of marshalling error crowded upon error, into regular and beautiful order. These references are expressed in the shortest way possible; the best figures are mentioned first: The abbreviations are explained by the author of the references, in the catalogue of authors sub-joined.

The references to RAY are preserved, so far as the Varieties he furnished rendered them necessary.

The Linnæan names have now taken the lead of the English ones, and to facilitate

facilitate their adoption, they are accented. In the difficult task of accentuation I had the assistance of my worthy friends Dr. Arnold of Leicester, and the late Rev^d. Mr. Newling of Birmingham, whose classical attainments, especially in Greek literature, were an ornament to the purity and urbanity of his manners. The English Botanist need not now hesitate to pronounce the Latin names, provided he observe to throw the force of the voice upon that letter which *precedes* the mark of accentuation*. At the same time, the English names are still retained, in order to shew that our language is capable of a regular nomenclature; which, except in a few instances, is taken from old established authors, or from the daily use of the inhabitants of our Island.

The 3^d. Volume is intended to be published in the course of the ensuing year, and will contain the whole of the Class CRYPTOGRAMIA, together with an easy

* Further directions for the pronunciation will hereafter be given with the accented Index.

INTRODUCTION to the Study of Botany; the best methods of preparing and preserving a HORTUS SICCUS, or a collection of dried specimens of plants; the GLOSSARY of terms, illustrated by plates; the necessary INDEXES; the Rules for ACCENTUATION; and, more humiliating, though not less necessary than these, the table of *Errata*. The latter may be made more perfect by the observations of others, and the author will be thankful either for such, or for any other communications which can tend to advance a favourite study, or to render more compleat an undertaking which has cost him much labour and some anxiety.

After all, there is nothing farther from the wishes of the Author than, that the botanical student should confine himself to the information which may be obtained within the limits of this work only, for its professed intention is to lead him to other valuable sources of knowledge which are at present inaccessible to the unlearned reader. On this account he has carefully avoided transcribing any thing from Mr. Lightfoot's excellent work on
the

the plants of Scotland, for, although that work is at present of little use to any but the Latin Botanist, as the specific Characters are given in that language; yet the translations in these Volumes will supply that defect, and render the English reader capable of receiving much useful and interesting information, from the valuable descriptions in English, which he has generally subjoined.

BIRMINGHAM,

24th August, 1787.

A LIST

A L I S T

*Of the Names of those Gentlemen who have favoured
this Edition with their assistance.*

DR. ARNOLD, Fellow of the Royal Medical
Society of Edinburgh, Physician at Leicester.

MR. BALLARD, Surgeon, near Malvern Wells,
Worcestershire.

DR. BEDDOES, Lecturer in Chemistry, at Oxford.

DR. BROUGHTON, late President of the Royal
Medical Society of Edinburgh, Physician in
Kingston, Jamaica.

MR. BRUNTON, Jun^r. Perry-hill, near Birming-
ham.

REV. HENRY BRYANT, M. A. Heydon, Norfolk.

JAMES CROWE, Esq. Tuckswood, near Norwich.

REV. SAMUEL DICKENSON, L. L. B. Rector of
Blymhill, Staffordshire.

JOHN FORD, Esq. Surgeon in Bristol.

MR. HALL, Newton Cartmell, near Ulverstone,
Lancashire.

MR. HAWKES, Birmingham.

T. F. HILL, Esq. late of Ely-Place, Holborn,
London; now in Italy.

MR. J. A. HUNTER, Nursery-man, Perry-hill,
near Birmingham.

REV. WILLIAM HOLLEFEAR, A. M. Vicar of
Wolvey, near Hinkley, Leicestershire.

Mr:

Mr. JONES, late Surgeon in Birmingham.

—— MARTYN, Esq. Teignmouth.

Rev. Mr. NEWBERRY, Fellow of Exeter College,
Oxon.

Mr. PITCHFORD, Surgeon, in Norwich.

Mr. SAVILLE, Lichfield.

Dr. J. E. SMITH, Proprietor of the Linnæan
Collection.

Dr. STOKES, Member of the Royal Medical So-
ciety of Edinburgh, corresponding Member
of the Society of Antiquaries of Scotland,
Physician at Shrewsbury.

ROBERT STONE, Esq. Bungay, Suffolk.

J. WATT, Esq. Engineer, Birmingham.

Mr. WHATELEY, Surgeon, Old Jewry, London.

Mr. WIGG, Schoolmaster, Yarmouth.

Rev. Mr. WOOD, Leeds, Yorkshire.

THOMAS J. WOODWARD, Esq. L. L. B. Bun-
gay, Suffolk.

D E S I G N.

NOTWITHSTANDING the very rapid progress of Science from the middle of the last century, it is only since the beginning of this that the study of Natural history hath attracted the general attention of mankind.

Botanical enquiries in particular have been confined to a few individuals; partly from the difficulties which attended them, and partly from an opinion that they were only useful to the professors of Medicine; but the establishment of the LINNÆAN SYSTEM called forth a number of votaries to cultivate this amiable Science; and the pupils of its admirable author convinced mankind, that the Medical properties of Plants, were far from being the only circumstances worthy their attention.

Still

Still however difficulties remained. An acquaintance with *one* of the Learned Languages was hardly sufficient to enable us to understand his works. The novelty of the subject compelled him to invent a variety of new terms; and without, or even with the advantages of an Academical Education, it was a very laborious task to attain precisely that idea, which he wished them to express.

In this situation of things, what could be done by those, who from nature, or from accident, found themselves possessed with a taste for Botanical knowledge? They studied Botanical plates: but bad plates conveyed false, or insufficient ideas; and good ones were too expensive for general use. If they applied to old voluminous Herbals, the want of method, the deficiencies, and the long continued attention which was requisite, fatigued the most industrious dispositions. If they sought for information in more modern productions, they found such a multiplicity of terms, formed from the Greek and Latin languages, with nothing truly English but the terminations; that they soon began to despair of success, and then relinquished the study in disgust.

A Desire to remove these difficulties, and to render the path in this walk of science, as easy as it is delightful, first gave rise to the present undertaking.

From an apprehension that Botany in an English dress would become a favourite amusement with the Ladies, many of whom are very considerable proficient in the study, in spite of every difficulty, it was thought proper to drop the sexual distinctions in the titles to the Classes and Orders*, and to adhere only to those of Number, Situation, and Proportion. They who wish to know the curious facts which gave birth to this celebrated system, may consult the *Philosophia Botanica*, the *Sponsalia Plantarum*, in the first volume of the *Amœnitates Academicæ*; *Lee's Introduction*, and *Milne's Botan. Dict.* where they will meet with many other very interesting Philosophical disquisitions.

Sexual Dis-
tinctions.

All controversies about system are here studiously avoided. Mankind are weary of such unprofitable disputes. Every System yet invented, undoubtedly may glory in its peculiar beauties, and, with no less reason, blush for its particular defects. It is sufficient for the present purpose that the system of LINNÆUS is now very universally adopted; and though confessedly imperfect, it approaches so near to perfection, that we may perhaps never expect to see any other improvements, than such, as will be founded upon his plan. Of System.

* The Linnæan titles however, are still preserved on the top of the left hand pages, to accomodate those who have been habituated to use them.

Language.

With respect to the language, some apology is undoubtedly necessary. It would be no difficult matter to render the sentences more connected. This would make them less awkward, but at the same time less perspicuous. Use will take off from the former defect, but nothing can atone for the latter. The best Systematic Naturalists are those who entertain precise and well-defined ideas, and communicate them in such a manner, that the characteristic features of what they are describing, obtrude themselves upon the eye.*

Terms.

No part of this undertaking demanded more attention, or occasioned more labour, than the selection of the terms. The old English Botanists afforded very considerable assistance: still, however, it must be confessed, that some words foreign to the English language, are necessarily retained: but wherever these occur, or wherever an English word is taken in a more strict acceptation than usual, it may be found in the Glossary; and is there explained, either by a definition, by the assistance of engravings, or by reference to some well-known example.

In quoting examples to explain the terms, it was thought expedient to use the most common
and

* LINNÆUS has great merit in the judicious disposition of his Matter; so that a glance of the eye catches in a moment the subject in question, without the fatigue of reading page after page. In this work, the same mode of printing is adopted.

and well-known names of Plants, and likewise to take instances from Plants which are frequent in our gardens, whether naturally growing in this country, or not.

The Latin terms used by LINNÆUS are thrown into alphabetical order; partly to demonstrate how little the English language stands in need of foreign terms, and partly with a view of affording assistance to the reader, when he has occasion to consult other writers upon Botanical subjects.

The Synopsis of the Genera, at the head of each Class, and the sub-divisions of the Orders, will be found greatly to shorten the labour of investigation. But the sub-divisions are not without exceptions: These, however, as well as the exceptions of particular species, are noted under such Classes, Orders, or sub-divisions of Orders, as the learner from the contemplation of the Plant in question would be most apt to refer it to. The Generic descriptions are translated from REICHARD'S edition of the *Genera Plantarum*; but in some instances, where the original is evidently more adapted to the foreign, than to the British species, it was necessary to naturalize it to our own country, by additional observations, though without the omission of any part of the original text.

The characters of the Species are translated also from REICHARD'S edition of the *Species Plantarum*:
but

but as we have a right to expect that the Flora of a particular country, should be more full and perfect than one that is meant to contain the productions of the whole surface of the earth, additional descriptions are added to almost every Species. These additional descriptions are taken from the Flora Suecica, the Flora Lapponica, the Species Plantarum, or the Amœnitates Academicæ of the same author; so as to include nearly the whole of what that ingenious and sagacious naturalist, or his numerous disciples have said concerning the native plants of the British isles.

After these follow original observations, the communications of my friends; others from my own notes, and sometimes extracts and remarks from Leers, Scopoli, Hudson, Curtis, and other authors of credit, whose names are always added, that the reader may judge of the belief due to the authority.

Many more descriptive extracts might have been taken from HALLER's *Flora Helvetica*, a work abounding with original and ingenious observations; but the liberal use which Mr. Lightfoot has made of that excellent author, in the English annotations to his *Flora Scotica*, has rendered that labour in a great measure superfluous.

Names.

At a time, when the names of Plants are already too numerous, nothing less than the plea of indispensable

spenſable neceſſity can juſtify the introduction of new names for any of the Genera: But the intelligent reader will immediately perceive the impoſſibility of forming a compleat Engliſh ſyſtem, without creating a few Engliſh Generic names. Innovations of this kind are never admitted without an abſolute neceſſity; wherever that neceſſity appeared, and the old Engliſh Botanists afforded no aſſiſtance, ſuch a name was invented as might be expreſſive of ſome ſtriking characteristic of the Plant. To prevent confuſion, the common Engliſh names are ſubjoined to each Species, and where the common name of a Plant cannot be retained for the Genus, it is generally adopted as the trivial name of the Species.

So much for the more ſtrictly *botanical* part; but there are other conſiderations relative to plants, which render this work more generally intereſting, and more extenſively uſeful.

The ſtructure of every leaf and every flower, Peculiarities. exhibits proofs of Divine Wiſdom: but we are too apt to paſs, without attention, the phænomena which are daily preſented to our eyes. In ſome parts of the vegetable kingdom, there are however ſuch peculiarities of ſtructure, and ſuch amazing contrivances to answer the wiſe purpoſes of the Creator, that a total diſregard to them would have been unpardonable: Theſe therefore are mentioned, in a

concise manner, yet sufficiently full to excite the attention of the ingenious.

Sleep of
Plants.

Many Plants in the night-time, from a change in the direction of the leaves and leaf-stalks, assume an appearance so totally different from what is usual to them, that the most expert Botanist would hardly be able at first sight to recognize his old acquaintance. This is called the *SLEEP OF PLANTS*; and is noticed under some of the Species: as is likewise the *WAKEING*, or opening of flowers. Most flowers when once expanded, continue so night and day; some close against rainy weather, but some have their stated times of opening and closing independent of any sensible changes in the atmosphere. Thus the white *WATERLILY* opens at seven in the morning, and closes again at four in the afternoon. The yellow *GOATSBEARD* has long been known to have this property, and is therefore called by the country people, *JOHN CLO TO BED AT NOON*. If kept in a bottle of water, it will be found to open at three or four o'clock in the morning, and to close again before noon.

Wakeing of
Flowers.

Oeconomical
Uses.

The Oeconomical Uses of Vegetables, have been too little attended to by men eminent for Botanical Knowledge. The Theory of the Science, and the Practical Uses have been too much dis-joined. At length, however, the generality of mankind are tired with disputes about Systems, and

and the vegetable productions of Europe are pretty well arranged : It is time therefore to think of turning our acquisitions to some useful purpose. Our own countryman, the ingenious and indefatigable Mr. *Ray*, in his journeys through the different parts of this Island, collected a few important facts; but it is to the industry of LINNÆUS and his Disciples, that we are indebted for the greater part of our knowledge upon this subject. Mr. *Stillingfleet*, with a zeal truly commendable, attempted to render the Study of the Grasses subservient to the great purposes of agriculture*; but it was impossible that his plan should be adopted, whilst the farmer wanted the means of distinguishing the different Genera and Species.

In years of scarcity we are often told, that mankind suffer, and sometimes perish by famine ; but surely this would never be the case, if men were apprized of the very great number of esculent Vegetables which grow wild and unnoticed in the fields. Some of them may be used with advantage, even amidst the luxury of plenty ; and others may easily be gathered in quantities sufficient to support life, when better or more agreeable food cannot be had. With this view, the part of the plant to be preferred, and the usual mode of dressing it, are mentioned under those Species which have been found most suitable for food. Uses as food.

* See his Miscellaneous Tracts.

Uses for Cat-
tle.

It is a matter of the greatest consequence to determine what Species of Plants are preferred by particular Animals; for what is noxious to one Animal is often nutritious to another. Thus the WATER COWBANE is a certain poison to cows; whereas the goat browses upon it greedily, and with impunity. MONKSHOOD kills goats, but does not hurt horses. Bitter Almonds are poisonous to dogs, but not to men. PARSLEY is fatal to small birds, while swine eat it safely; and Pepper is mortal to swine, but wholesome to poultry. Many experiments made with this view by LINNÆUS, and his pupils at *Upsal*, are given in the second vol. of the *Amœnitates Academicæ*. The result of those, which relate to the British Plants, will be found under the particular Species. Many of them were repeated ten and even twenty different times, and with the precautions mentioned below, which are here added for the sake of those, who have leisure and opportunity to pursue these interesting enquiries.

When horses, cows, &c. are said to *eat the plant*, it means that they eat the *Leaves* of the plant. Thus horses and cows eat a great variety of Grasses; but they only eat the leaves; for when left to their own choice they never touch the flowering *Stems*. Some Plants are eaten early in the spring, whilst young and tender, but are rejected in the summer. The animals chosen for these experiments must not be over-hungry, for an empty stomach will compel them

to

to feed upon plants which nature never designed for them: Nor should they be taken immediately out of the house; because after they have lived a considerable time upon dry food, they devour greedily every green vegetable which comes in their way. The Plants offered to them should be handled as little as possible, for some Animals are very nice, and will refuse the most agreeable food, when defiled by sweaty hands. Throw the Plant in question upon the ground; if the Animals refuse to eat it, mix it with others which they are known to like, and if they still refuse it, the point is clear; especially if the experiment be repeated with different individuals.

The Catalogue of Insects which feed upon the different Species of Plants, is confessedly very imperfect; but it will serve as a foundation for future observations of the same kind. Perfection in these matters is not to be attained at once. In its present state it may not be without its use. It will be seen, that Insects live chiefly upon the products of the taller Trees, which grow out of the reach of Quadrupedes, such as the *ELM*, the *PEAR*, the *LIME* and the *OAK*; or upon the thorny and stinging Plants which repel the attacks of other Animals, as the *ROSE*, the *THISTLE* and the *NETTLE*; or upon such plants as exist every where in great abundance as the *GRASSES*; or lastly, upon such Plants as other Animals will not

Uses for Insects.

eat, as the DOCK, the WATERLILY, the FIG-WORT and the HENBANE.

Derham supposes. and with a degree of probability on his side; that the Virtues of Plants may be discovered by observing what insects feed upon them. Thus the *Cassida viridis* feeds upon *LYCOPUS* and upon *MENTHA*, which are plants of the same *Natural Order*, and possessed of the same Virtues. The *Phalæna Sambucaria* feeds upon several of the Rundle-bearing plants of the fifth Class, which we know are endued with similar qualities; and the *Papilio Cardamine* devours the Common LADY-SMACK and the MITHRIDATE, which are Plants of the same *Natural Class* and have nearly the same properties.

Changes.

Many Plants change the appearance of some of their parts, to accommodate certain Insects with convenient lodgings: Some of the most remarkable of these changes are noticed.

Uses in the Arts.

It is beyond a doubt, that the Inhabitants of different countries, and artists of different kinds, know how to apply a number of Plants to answer a variety of purposes. Such of these as could be selected from good authorities, or obtained from private information, are subjoined in their respective places.

Medical Virtues.

Many people will be surprized to find so little said upon the Medical Virtues of Plants; but those who

who are best enabled to judge of this matter, will perhaps think, that the greater part of that little might have been omitted. The superstition of former ages, operating upon the ignorance of mankind, gave rise to miracles of every denomination; and the fashion of combining a great variety of ingredients with a design to answer any particular purpose, rendered the real efficacy of any of them extremely doubtful. The dreadful apprehensions which men formerly entertained of POISONS, made them fearful of employing substances that were capable of doing mischief; and therefore they rejected those which were most likely to do good. A number of Vegetables fit only for food, were supposed capable of producing the greatest alterations in the human body; and at length almost every common Plant was esteemed a cure for almost every disease. In this situation of things, little advantage can be reaped from the experience of former times: we shall sooner attain the end proposed, if we take up the subject as altogether new, and rejecting the fables of the antient Herbalists, build only upon the basis of experiments well conceived and accurately executed. To facilitate the work as much as possible, the following observations are added.

Certain Plants, capable of producing sudden and remarkably deleterious effects upon Animal Bodies, are called Poisonous: but Poisons in small doses are the best medicines; and useful medicines

in too large doses are poisonous. Even the most innocent aliments, in certain quantities, are noxious.

We must not disdain to learn the Medicinal uses of Plants from the meanest of Mankind; especially where they use their remedies in an uncompound-form; for what are those celebrated medicines which we import from the *Indies* at a considerable annual expence, as Ipecacuanha, Contrayerva and Sarsaparilla, but remedies, by long experience, approved amongst the common people in the countries from which we purchase them?

Plants of the same *Genus* have something of the same Virtues: Those of the same *Natural Order* have still a nearer resemblance; and those of the same *Natural Class* the nearest of all. These properties are remarked in the Introductions to the Classes.

Plants having honey cups detached from the petals are generally poisonous, as the HELEBORE, the COLUMBINE and the DAFFODIL.

Plants with a milky juice are frequently poisonous; as some of the MUSHROOMS, the SPURGES, and CELANDINE. Others are so but in a less degree, as HAWK-WEED, GOATS-BEARD, SUCCORY and LETTUCE.

Plants

Plants with a simple jointed stem, sword-shaped leaves, and fleshy roots, are generally acrid : thus the juice of the *yellow FLAG* excites vomiting and sneezing.

The pleasant-tasted and sweet-smelling Plants are generally wholesome.

Plants which have an ungrateful smell produce disagreeable effects, as the *ELDER*, and many of the *FUNGUSSES*. Those which smell nauseously, as the *HENBANE*, are generally poisonous.

Plants which are bitter to the taste, are stomachic, and destroy acidity ; as *GENTIAN*, and *CENTAURY*.

Acid Plants abate heat and thirst, and resist putrefaction ; as the fruit of the *CURRENT*, or the leaves of the *WOODSORREL*.

Astringent Vegetables may be discovered by the taste.

A red colour, indicates acidity ; a yellow one, bitterness, or acrimony.

Plants in dry seasons, and growing in dry situations, have most taste. Thus the aromatic Plants, as *THYME*, *SAGE* and *MARJORAM* are by far the best in dry soils ; and every one knows the insipidity of Fruits in wet soils and wet seasons.

Plants which grow in watery situations are often corrosive; as CROWFOOT and WATER-LILY. But the corrosive aquatic Plants lose much of their acrimony when cultivated in a dry soil: Of this, the Garden CELERY is a sufficient example.

ROOTS are in greatest perfection, when the leaves first begin to put forth.

LEAVES are best gathered, when the blossoms are beginning to open.

FLOWERS are in greatest perfection, when moderately expanded.

SEEDS must be gathered, when they have attained their full size and are nearly ripe.

BARKS are best in the winter, before the sap rises.

Different parts of the same Vegetable often manifest very different properties: Thus the leaves of WORMWOOD are bitter, whilst the roots are aromatic. The Seed-vessels, or Heads of POPPIES are narcotic, but the Seeds have no such quality.

It will readily be allowed, that these rules are by no means universal: The exceptions to most of them are numerous. We must be content to consider them, as rude and imperfect out-lines, which the industry of future ages will correct and compleat.

ADVERTISEMENT,

B Y T H E

Author of the References to Figures.

MY Plan in the new references which I here offer to the public, has been to afford the investigating botanist as full a collection of references to figures, as the size of the work would admit. It is not in every one's power to become possessed of a complete collection of figures, and those who are, cannot easily transport them to situations in which their possessor might wish to consult their contents. Different herbals may, however, in most places be met with, though perhaps not the individual one referred to in the more portable works which he may have made the companions of his journey. On this account, I have thought
I might

I might perform no unacceptable office to the practical botanist, to undertake a review of all the figures to which I could obtain access, and to present him in as small a compass as possible, the result of my examinations, in a collection of *all such figures, placed in the order of their supposed comparative excellence*. By this means, I flatter myself, he will be enabled to derive information from any of the old herbals. And if possessed of a complete collection of botanical figures, it is possible that amidst so large a number he might be at a loss which to consult, or in which of them he should confide as the most faithful representation of the plant in question. He may consult all in his possession; and then I doubt not, if accustomed to the inspection of plants and figures, he will form a very just judgment. But if unexperienced, or pressed for time, I flatter myself that mine will not at least prove unacceptable. These opinions I subject to the examination of the experienced botanist, without presuming to instruct him. From such I shall be happy to receive instruction, and to profit by it, with due acknowledgments, in case of a future edition.

I have inserted no figures which I have not examined and compared, unless the contrary is expressly noticed. In forming the above judgment I have endeavoured to abstract myself from the glare of splendid colouring, and the less obtrusive,
though

though not less deceitful finish of the engraver, and to consider with impartiality, which of the figures may have the merit of giving most exactly the true genius and habit of the plant. The reader must not therefore be surpris'd to observe a wooden cut from the old herbals, sometimes to precede an engraving on copper in the *Flora danica*, especially in that part of it which has appeared since the unfortunate affair of Struensee, occasioned the removal of the ingenious O E D E R from the direction of that work.

These references may also be productive of some benefit to science, in pointing out to the ingenious artist, who employs his pencil in botanical works, what plants have been already well figured, and what still remain to be delineated: There are several works which I could mention, where the number of new figures are exceedingly few, and the practical botanist to possess these, is obliged to purchase a great number of others which have before appeared in former publications, J A C Q U I N, P A L L A S, and D I C K S O N, are examples of a just plan. While so many plants, natives of these islands, and not comprehended within the limits of the *Flora Londinensis*, or cultivated in our botanic gardens, remain un-illustrated by accurate engravings, the artist cannot complain of a want of subjects for his pencil. I could wish indeed, that such deficiencies were supplied under the direction
of

of an experienced botanist, such as our rivals in science possess, in the person of M. L'HERETIR, or the artists of Nuremberg, in the excellent SCHMIDEL. But if those who ought to be the patrons of such works, leave them to be directed by artists, every true lover of botanical science should do, what at least he can, to direct their labours, and render them as conducive as possible to the advancement of so useful and pleasing a branch of knowledge.

A revision of the references to figures, appeared to me to be very much wanting. In the 2 *first editions* of RAY's *Synopsis*, as also in all his other works, the names of preceding authors are given but without any reference to the number of the volume or page. In the 3*d* edition, published in 1724, this deficiency was supplied by the ingenious editor DILLENIIUS.

The references of Dillenius, were given in the *Flora Anglica* of Mr. HUDSON, but with the omission of the references to the first edition of Gerard, to which Dillenius in general, seems very justly to have given the preference, and the synonyms of Johnson's edition, generally quoted by the title of *Gerardus emaculatus*, substituted in their place. In all these citations, there are no marks by which the reader can be assured whether the plant cited be figured there or not, which necessarily occasions him frequent disappointment in his researches.

Mr.

Mr. LIGHTFOOT in his *Flora Scotica*, has given us references to figures, evidently the result of actual observation. But they are confined to the plants of Scotland and the Hebrides, and the 2d edition of *Ger.* seems the only one of the older authors whom he refers to.

In the last edition of the *Species plantarum*, published by REICHARD, under the title of *Systema plantarum*, there are many new references to figures, but they are merely transcripts from the authors cited.

But figures, without a system to conduct the reader to them, are almost useless, and there are some plants which have so great a resemblance to each other in their external form, that even when growing, they are with difficulty distinguished. The structure however of their minuter parts, frequently affords unambiguous marks of distinction. Hence the utility of those short characteristic descriptions, called by Linnæus, the *specific character*. RAY had the merit of establishing Classes on botanical principles, and TOURNEFORT that of distinguishing Genera by still more exact modes of discrimination; but it was left for LINNÆUS to distinguish species by certain and unambiguous characteristics drawn from the shape, situation, and proportion of the parts. MICHELI indeed had made some advances towards this mode of discrimination;

mination; but the marks which he fixed upon, were frequently ambiguous, and not sufficiently characteristic, LINNÆUS after the example of MICHELI, considered these characteristical descriptions as the name of the plant, and he even laid down a rule that they should not consist of more than 12 words. But it being discovered that such names could with difficulty be retained in the memory, or employed in conversation, and as genera were already distinguished by a single name, Linnæus was insensibly led to denote the species of each genus by an epithet expressive of the particular species, or a name rendered familiar by long usage. These he called by the modest title of *Nomina trivialia*: or *trivial names*. But they were soon found of great importance in facilitating the diffusion of botanical knowledge, and they have been adopted by almost all intelligent botanists. Some indeed, who have in general adopted them, do not appear to have been fully sensible of their value, and of the mischiefs which must necessarily arise from arbitrarily changing them. Many of the words of the English language might be rendered more harmonious, we might latinise them after the manner of Johnson, or italianise them, on the model exhibited by the author of Letters on literature, but were such innovations to become general, our best writers would be robbed of all the graces of style, and Gray, and Gibbon, become in a few years, as obsolete as Chaucer. No botanists of the

Linnæan

Linnæan school, have been so faulty in this respect as those of our own country. Were they men of inferior talents that committed these faults, I should only remark, how much easier it is to change a name than to discover the essential character of a new genus or species. But the faults which I complain of, originate, I am persuaded, not from a love of self-distinction, but from not sufficiently attending to the importance of possessing an established nomenclature. Where species have been referred to wrong genera, or genera established on erroneous principles, changes in the generic name must inevitably take place, but the *trivial*, or *specific name*, as it ought rather to be called, should if possible remain unaltered. Mr. HUDSON in his 2d edition, has changed *Ononis arvensis* of Linnæus and the 1st edition of his own work to *O. inermis*; *Alopecurus monspeliensis* and *paniceus* to *aristatus*; *Agrostis capillaris* to *polymorpha*; *Melica nutans* to *montana*, because it had been called *Gramen avenaceum locustis rubris montanum* by C. Bauhine; *Bromus mollis* to *polymorphus*; *arvensis* to *erectus*, and *madritensis* to *muralis*; *Pastinaca sativa* to *sylvestris*; *Agaricus virens* of Scop. & Schæff. to *viridis*; *Carthus acanthoides* to *crispus*, and *crispus* to *acanthoides*, *Sparganium erectum* to *ramosum*, &c. Mr. LIGHT-FOOT has changed *Serapias longifolia* to *palustris*; and Mr. CURTIS, in spite of all the arguments I could urge to him at the time, changed *Boletus rugosus* of Jacq. to *lucidus*; and *Agaricus crenulatus*

of Muller to *plicatilis*, though Mr. Lightfoot had already given the name of *plicatus* to a species of the same genus. When a judicious botanist has communicated to the public a new species, and has distinguished it by a name conformable to the principles of the Linnæan nomenclature, it would prevent much confusion if succeeding observers were to adopt the name already given, and be but a proper compliment to the discoverer of a new species. Mr. Hudson, and Mr. Lightfoot, are not to blame for the many species to which they have given different names, as their respective works appeared about the same time, but it could be wished that botanists, especially in the same kingdom, would more freely communicate such plants as appear new to them, and which they propose to name. But I trust the learned, candid, and ingenious possessor of the herbarium, library, and manuscripts of the two Linnæi, will be the means of preventing the evils here complained of. Sensible as I am of the importance of figures in the present state of botany; I am inclined to believe, when the Linnæan principles of discrimination shall have been carried to their full extent, that species, as well as genera, may be distinguished in so clear and unambiguous a manner, that figures may be rendered of far less importance, and their use principally confined to the Fungi, Lichens, and Medicinal plants, which last it is of importance to know in every stage of their growth. Whatever occurred

occurred to me during the course of the work, that could tend to the improvement of the *specific characters*, or to facilitate the investigation of plants, has been added. Where any circumstance appeared worthy of forming a part of the character itself, it has been given also in Latin at the bottom of the page, but where it was only necessary to correct parts of the specific character, such observations have been placed immediately after it, with a view to facilitate the labour of investigation, but printed in italics, to distinguish mere corrections from circumstances essential to the specific character.

Such are the views which have engaged my attention in the part which I have taken in the present edition of the Botanical Arrangement. No physician who has felt the wish to make himself master of the discoveries made in his profession, during the last and present century, but must have become fully sensible of the importance of botanical knowledge, and it is Linnæan botany alone which can transmit with certainty to our posterity, those discoveries which the present age has made of the powers of vegetable remedies. For want of it, we have been but little benefitted by those of the Greek physicians, and we cannot expect to read their observations on the *materia medica* with any advantage, till a botanical voyage to Greece and

the Archipelago, proposed by the late Mr. Stillingfleet, shall find a patron, and introduce into our gardens the plants used in medicine by the Greeks.

KIDDERMINSTER,

10th August, 1787.

ABBREVIATIONS.

EMPAL. Empalement.

BLOSS. Blossom.

POINT. Pointal.

S. VESS. Seed-vessel.

Capf. Capsule.

ESS. CHAR. Essential Character.

B. *Barren flowers*, or flowers with only Chives.

F. *Fertile flowers*, containing pointals, and producing Seed.

H. *hermaphrodite flowers*, or flowers containing both Chives and Pointals.

A. Annual, enduring only for 1 year, or a shorter time.

B. Biennial, enduring for 2 years.

P. Perennial, enduring many years.

S. Shrub.

T. Tree.

CATA-

CATALOGUE of BOTANICAL WORKS

CITED in this EDITION,

By the AUTHOR of the REFERENCES.

N. B. (1) Roman numerals express the number of the volume, fasciculus, or section, in which the figure is to be found.

(2) Arabic numerals signify in works of plates, the number engraved on the plate referred to, and in printed books, the page where such figure is to be found,

(3) A second set of Arabic figures, marks out the particular figure referred to, in the plate or page already cited.

(4) *abr.* signifies abridged; *cop.* copied; *repr.* reprinted. The blocks from which the wooden cuts of the old authors as Dodonæus, Lobel, and Clusius were taken, being the property of Plantin of Antwerp, their common bookseller, the use of these blocks was purchased by Johnson, the editor of *Ger.em.*—These authors I have generally placed in this order, *Clus.*—*Dod.*—*Lob.*—but in the more common plants, Dodonæus seems to have been the original publisher, in the more curious ones, Clusius.

AGT. upf. Nova acta reg. societatis scientiarum Upsalienfis. Tom. I. 1773.—II. 1777.—III. 17

Adanson. Adanson familles des plantes, Tomes II. 8vo.

Aldrovandi. Dendrologia. fol. 1671.

Allion. stirp. ped. Allionii rariorum Pedemontii stirpium specimen I. 4to. 1755.

Alpiñ. Ægypt. 1. Alpini historia Ægypti naturalis, pars I. 4to. 1735.

Alpin. Ægypt. Vefling. Alpini historia Ægypti naturalis, pars II. 4to. 1735.

Amman. Ammani stirpium rariorum in imperio Rutheno sponte provenientium icones & descriptiones. 4to. 1739. [In the style of Gmelin sibir.]

Amoen. acad. Amoenitates academicæ, seu dissertationes variæ physicæ, medicæ, botanicæ. Tomi VII. 1749.—1769. 8vo. [Academical dissertations published under the auspices of Linnæus, who either composed them, or supplied their authors with the necessary materials, as is the practice in the foreign universities.]

Affo. Affo synopsis stirpium Arragoniæ. 4to. 1779.

Barr. Barrelieri plantæ per Galliam Hispaniam & Italiam observatæ, iconibus aeneis expressæ. fol. 1714.

Bast. Basteri opuscula subseciva, 4to. Tom. I. 1762.—II. 1765.

Batschk.

Batsch. Elenchus fungorum, 1783. 4to.

Battar. Battarræ fungorum agri Ariminensis historia, 4to. 1759.

Beleval, opuscles (published by M. Brouffonett, F. R. S. and Academy of Sciences at Paris, and perpetual secretary to the Roy. Soc. of Agriculture of Paris.) 1785. 8vo. 5 plates.

Bellon. Bellonii observationes in Clus. exot.

Bergen dealóide. Francof. ad Viadr. 1753. 4to.

Bergen flora Francofurtana. 1750. 12mo.

Bergii materia medica. 8vo.

Berkenhout's clavis anglica linguæ botanicæ Linnaei, or botanical lexicon. 1766. 12mo.

———— Outlines of the natural History of Great Britain and Ireland. Vol. 2d. 1770. 8vo.

Blackst. Blackstone specimen botanicum quo plantarum plurium rariorum Angliæ indigenarum loci natales illustrantur. 12mo. 1746. [Plates 2,]

Blackst. cat. Blackstone catalogus plantarum circa Harefield. 1737. 8vo.

Blackw. Herbarium Blackwellianum emendatum et auctum a Trew. Tom. III. fol. 1757.—Tom. IV. 1760.—Tom. V. 1765.—Herbarii Blackwelliani auctarium a Ludwig. Tom. VI. 1773. [The original, of which this is a copy, was the work of Mrs. Elizabeth Blackwell, who executed this very useful, and in many respects, excellent work, as a means of supporting her husband, then confined for debt.]

Blair's botanic essays. 8vo. London. 1720.

Boccon rar. Boccone icônes & descriptiones rariôrum plantarum Siciliæ, Melitæ, Galliæ, & Italiæ. 4to. Oxon. 1674. [Figures characteristic, but small, and apparently from dried specimens.]

Boehm. Boehmeri, flora Lipsiæ indigena. 1750. 8vo.

Boerh. Boerhaavii index alter plantarum quæ in horto academico Lugduno Batavorum aluntur. pars I. [Plates 12.]—II. [Plates 27.] 1720. 4to.

Bolt. Bolton's filices Britannicæ, or history of British proper Ferns. 1786. 4to. by James Bolton of Halifax. [Neat etchings, coloured, but some better figured before, and many on a reduced scale; a practice reprobated by all good modern botanists. Plates of Polypodiums and the larger Ferns, should be of the larger folio size.]

Bot. Arr. Withering's botanical arrangement. ed. I. 2 Vols. 8vo. 1776.

Breyn. cent. Breynii exoticarum aliarumque minus cognitarum plantarum centuria I. 1678. fol.

Breynii pr. Breynii prodromus fasciculi rariorum plantarum. II. ordus. 1689. fol.

British Herbal 4to. [Figures, some of the last I believe, which have been cut in wood.]

Broughton enchiridion botanicum. 12mo. 1782.

Bryant. Bryant's historical account of 2 species of Lycoperdons. 1783. 8vo.

Bulliard. Plantes veneneuses de la France, & Champignons de la France. par M. Bulliard. fol. [Taken off in colours. The Mushrooms pleasing, the rest too much resembling tapestry figures.]

Buxb.

Buxb. Buxbaumii plantarum minus cognitarum centuria. I.—V. 4to, 1728.—1730.

Cam. epit. Camerarii de plantis epitome Matthioli novis plane & ad vivum expressis iconibus, &c. 1586. 4to.

Cam. hort. Camerarii hortus medicus & philosophicus. 1588. 4to. [Plates 47.]

Catalogus plantarum horti medici, Oxoniensis. 12mo. 1648.

C. B. pin. Caspari Bauhini pinax theatri botanici. 1623. 4to. [A collection of the names of all preceding authors.]

C. B. pr. Caspari Bauhini prodromus theatri botanici. 1620. 4to. [Many figures from Clus. and others. HALL.]

C. B. th. Caspari Bauhini theatri botanici five historia plantarum. Liber. I. 1658. fol.

Chabr. Chabræi stirpium sciagraphia & icones. 1677. fol. [A republication of the figures of *J. B. historia* with names and a short account of the plants.]

Chenal. De la Chenal observationes botanico-medicæ. 1776. 4to.

Clus. Clusii rariorum plantarum historia. 1601. fol. [An original writer. He continued publishing from 1576, to 1605. He died in 1609, at the age of 84. Figures 1166.]

Clus. exot. Clusii exoticorum. libr. x 1605. fol. [Figures 237.]

Clus.

Clus. app. alt. Ad rariorum plantarum historiam Clusii altera appendix [with the former figures 19.]

Clus. cur. Clusii curæ posteriores. 1611. [with Clus. exot. Figures. 41.]

Col. ccphr. Columnæ minus cognitarum rariòrumque nostro coelo orientium stirpium εκφρασις. 1616. 4to. [Figures 203.]

Col. phytob. Columnæ Φυτο βασιλεως. 1744. 4to. [The first botanical engravings on copper. Figures 39.]

Crantz. crucif. Crantz classis cruciformium emendata. 1769. 8vo.

Crantz. Crantz stirpium Austriacarum partes VI. 1769. 4to.

Crantz. umb. Crantz classis umbelliferarum emendata, 1767. 8vo.

Curt. cat. Curtis's catalogue of British medicinal, culinary, and agricultural plants, cultivated in the London Botanic garden, 1783. 12mo.

Curt. Curtis's Flora Londinensis, or plates and descriptions of such plants as grow within the environs of London. 4 Vols. and 10 No's. of the 5th Vol. in all 58 No's. 1776, to 1787. fol. [An admirable work, but the paper on which the plates are taken off should be better, and compleat descriptions are sometimes wanting.]

Curt. obs. Observations contained in a Catalogue of certain plants growing wild, chiefly in the environs of Settle, Yorkshire, observed by W. Curtis in a 6 weeks botanical excursion from
London

London, made at the request of J. C. Lettson, M. D. F. R. S. &c. in the months of July and August, 1782,—and published in the Fl. Lond. No's. 45, and 48.

Cutl. An account of some of the vegetable productions naturally growing in the neighbourhood of Ipswich in New England, botanically arranged, by the Rev. Manasseh Cutler, fellow of the American Academy and Medical Society, and member of Philos. Society at Philadelphia. In the Memoirs of the American Academy of Arts and Sciences. Vol. I. from p. 396 to p. 493. Boston, 1785. 4to.

Dil. elth. Dillenii horti Elthamensis plantarum rariorum icones & nomina. Lugd. Bat. 1774. fol. [Figures 417, drawn and etched by himself. *Hall.*]

Dill. Dillenii historia Muscorum. 1763. 4to. [Figures of near 600 species drawn and etched by his own hand.]

Dickf. Dickson fasciculus plantarum cryptogamicarum Britanniae. 1785. 4to.

Dod. Dodonæi stirpium historia pemptades sex sive libri xxx. 1616. Fol. [Figures 1330, some from Clus. and Lob.—He began publishing in 1552, and died in 1585.]

Eschenboch observationes botanicæ. Lipsiæ 1784. 4to.

Evelyn, see Hunter.

Fabric.

Fabric. helm. Fabricii enumeratio methodica plantarum horti medici Helmstadiensis. 1776. 12mo.

Fl. dan. Icones plantarum sponte nascentium in regnis Daniæ & Norvegiæ in ducatibus Slesvici & Holsatiæ, &c. ad illustrandum opus Floræ danicæ nomine inscriptum. Tom. V. Fasciculi xv. 1766.—1782. fol. The 3 first volumes by Oeder, and by far the best; the 2 last by Muller.

Fl. lapp. Linnæi flora Lapponica exhibens plantas per Lapponiam crescentes. 1737. 8vo. [Figures characteristic.]

Fl. Ross. Flora Rossica. Petropoli. 1784. Folio.

Fl. suec. Linnæi flora Suecica, exhibens plantas per regnum Sueciæ crescentes. ed. II. 1755. 8vo. [Plate 1.]

Fuchf. Fuchsi de historia stirpium comentarii, insignes, &c. 1542. fol. [Outlines well done for the age.]

Garid. Histoire des plantes qui naissent aux environs d' Aix, & dans plusieurs autres endroits de la Provence ; par M. Garidel. 1715. fol. [Fig. 101.]

Gars. Les figures des plantes & des animaux d' usage en medicine, decrits dans la matiere medical de M. Geoffroy, dessinés d' après nature par M. de Garfaut. Tomes V. (1764.) 8vo. [Figures 643, from nature. HALL.]

Gen. pl. Linnæi genera plantarum, edente Reichard. Francof. 1778. 8vo.

Ger. Gerard's historie of plants. 1597. fol.
 [Johnson the editor of the 2d. edition informs us, that the ground-work of this work was a M.S. translation of Dodonæus by Dr. Priest, but to give it the air of an original, disposed in the method of Lobel, then resident in England, and botanist to the King, and illustrated by figures taken from the blocks of Tabernæmontanus procured from Frankfort, by Mr. Norton, who was the common patron of Priest and Gerard. This will explain why I sometimes say of a fig. *reprinted in Ger. em.* & *copi. in Park & Ger.* (ed. I.) Notwithstanding this, Gerard had the hardiness to speak of Priest and himself, in the following terms, "And since
 " that Dr. Priest one of our London College
 " hath (as I heard) translated the last edition of
 " Dodonæus, and meant to publish the same, but
 " being prevented by death, his translation likewise perished. Lastly myself have presumed to
 " set forth unto the view of the world the first
 " fruits of these myne own labours." Haller says there are about 16 original figures.]

Ger. em. Gerard's herball, or generall historie of plantes, very much enlarged and amended, by Thomas Johnson. 1636. fol. [Figures 2821 from the blocks of Dodonæus, Lobel, and Clusius, with some original ones. HALL.]

Ger. prov. Gerardi (Ludovici) flora, Gallo Provincialis. 1761. 8vo. [Engravings too delicately neat.]

GERM. SYN. Vollständiges systematisches verzeichniß aller gewachse Teutschlandes, &c. Erster Baud. Leipzig 8vo. 1782. [An industrious collation of the synonyms of the plants of Germany. It has merit in the novelty of the arrangement, and has proved peculiarly useful to me in affording as far as the middle of the class Pentandria, a reference to the pages of the works of the older botanists, their names only being given in the Pinax of C. Bauhine. I am sorry however, it is not in my power to praise the author for the detection of old errors, or the discovery of many new facts.]

Gisek.—or *Gies.* Giseke & Schulze icones plantarum. 1777. fol. [They are rather cætypæ, or impressions taken from living plants, coloured, but ill done.]

Giseke. Index Linnæanus in Plukenetii opera, & Dillenii historiam muscorum. 1779. 4to.

Gled. Gleditschii methodus fungorum. 1753. 8vo.

Gleditschii systema plantarum Berolini. 1764. 8vo.

————— Consideratio Ekierifeos Siegesboc-
kianæ. Berol. 12mo. 1745.

Gmel. Gmelin flora sibirica, sive historia plantarum Sibiricæ. Tomi IV.—1747.—1749.—1768. 1769.—4to. [Figures hard and unexpressive, apparently from dried specimens.]

Gmel. fuc. Gmelin (Samuel Gottlieb) historia fucorum. 1768. 4to.

Gmel. tub. Gmelin (J. Fred.) enumeratio stirpium agro Tubingenfi indigenarum. 1776. 12mo.

Gorter.

Gorter. ingr. Flora Ingrica ex schedulis Stephani Krascheninnikow confecta & propriis observationibus aucta a Dav. de Gorter. 1761. 8vo.

Goüan. fl. Goüani flora Monspeliaca. 1765. 8vo.

Goüan. hort. Goüani hortus regius Monspeliensis. 1762. 8vo.

Goüan. ill. Goüani illustrationes & observationes botanicæ. 1773. fol.

Gunn. Gunneri flora Norvegica. Pars I. & II. 1766. 1772. fol. [Figures good.]

Hagen tentamen historiæ Lichenum. 1782. 8vo.

Hall. biblio. Halleri bibliotheca botanica. Tomi II. 1771, 1772. 4to. [The index shamefully incorrect.]

Hall. gott. Halleri enumeratio plantarum horti regii & agri Gottingensis. 1753. 12mo.

Hall. opusc. Halleri opuscula botanica. 1749. 12mo.

Hall.—or *Hall. hist.* Halleri historia stirpium indigenarum Helvetiæ. Tomi III. 1768. fol. [The plates re-impressions, of those of the *stirpium*. A great man but I am afraid too jealous of the fame of his co-temporary Linnæus, to adopt his improvements in the language of botany, and in the discovery of trivial names. An accurate and careful observer, his knowledge of species very extensive, and ideas of genera formed on a cautious and exact comparison of the structure of parts.]

Hall.

Hall. stirp. Halleri enumeratio methodica stirpium Helvetiæ indigenarum. Tomi II. 1742. fol. (Figures 77.)

Happ. Happé icones plantarum cryptogamiæ. Decuria I. II. III. fol. 1782.

Hartmann primæ lineæ institutionum botanicarum. 1766. 8vo.

Hedw. hist. Hedwigii fundamentum historiæ muscorum frondosorum. Pars I. & II. 4to. Lipsiæ. 1782.

Hedw. stirp. Cryptogamicæ Fasc. I. II. Lipsiæ, 1785, 1786.

Hedw. theoria. Generationis & fructificationis plantarum cryptogamicarum. 4to. Petropoli. 1784.

Herm. hort. Hermanni horti academici Lugduno-Batavi catalogus. 1687. 8vo. (Figures 107.)

Herm. par. Hermanni paradisus Batavus. 1698. 4to.

Hist. de l'Academ. Histoire de l'Academie Royal des Sciences. Paris.

H. ox. Morisoni plantarum historiæ universalis Oxoniensis pars II. 1680. fol.—pars III. quam explevit & absolvit Jacobus Bobartius. 1699. fol.—(Figures 3586. The 1st part intended to comprehend trees and shrubs, was never published. The references are made to sections, plates, and figures. The original figures chiefly by Bobart, and good.)

Hoffm. Hoffmanni enumeratio Lichenum, Fasc. I. II. III. 1784, 1785, 1786. 4to.

Hort.

Hort. upf. Linnæi hortus Upfalienfis; exhibens plantas exoticas horto Upfalienfis academicæ a sese illatas. 1748. 8vo. (Plates 3.)

Hudf. Hudfoni flora Anglica. ed. II. Tomi II. 1778. 8vo.—ed. I. 1762.

Hunt. evel. Sylva, or a discourse on Forest Trees, by J. Evelyn, with notes by A. Hunter, M.D. 1776. 4to. ed. I.—1786. 4to. 2 vols. ed. II. [Figures by J. Miller, with the parts of fructification.]

Jacq. enum. Jacquin enumeratio stirpium plerarumque quæ sponte crescunt in agro Vindobonensi, montibusque confinibus. 1762. 12mo.

Jacq. fl. Jacquin flora Austriaca sive plantarum selectarum in Austriæ Archiducata sponte crescentium icones. Tomi V. 1773, &c. fol. [Admirable, and wanting nothing but the parts of fructification apart.]

Jacq. hort. Jacquin hortus Vindobonensis. Tomi III. 1770, 1772, 1774. fol.

Jacq. misc. Jacquin miscellanea Austriaca. Tomi II. 1778, &c. 4to.

Jacq. obs. Jacquin observationes. botanicæ. Partes IV. 1764, to 1771. fol.

Imit. Imitated.

J. B. Historia plantarum universalis auctoribus Johanne Bauhino & Cherlero, quam recensuit & auxit Chabræus, juris vero publici fecit Graffenried. Tomus I. 1650. (a) in the references signifies the first part consisting of p. p. 602.—(b) the 2d part of p. p. 440.—Tom. II. 1651.—Tom. III. (a) or the Vol. I. d first

first part consisting of p. p. 212, (b), or 2d part of p. p. 882. [Containing in all, according to Trew in Blackw. 3577 figures.] Fol.

Jonst. Jonstoni dendrographia sive historia naturalis de arboribus & fructicibus. 1662. fol.

Kolpin floræ Gryphicæ supplementum. 1769. 12mo.

Kram. Kramer elenchus vegetabilium & animalium Austriæ inferioris. 1756. 8vo.

Lammersdorff de Filicum fructificatione. 1781. 8vo.

Leers flora Herbonensis exhibens plantas circa Herbonam Nassoviorum crescentes. 1775. 8vo. [The minuter parts admirably done, but the larger parts not equally characteristic.]

Lee's introduction to Botany. 8vo.

Leyf. Leyferi flora Halensis. 8vo. ed. ult. 1783.

Lightf. Flora Scotica, or a systematic arrangement of the native plants of Scotland and the Hebrides, by the Rev. John Lightfoot, A. M. 2 vols. 1777. 8vo. [Little has been extracted from this valuable work which does so much credit to its author and patron, it being accessible to the English reader.]

Linn. Linnæus's works.

Linn. amoen acad.—fl. lapp.—fl. suec.—gen. pl.—hort. upf.—mant. pl.—mat. med.—sp. pl.—syst. nat.—syst. pl.—phil. bot. See the separate articles of amoen. acad. &c.

Linnæi fundamenta botanica, 1747. 8vo.

Linnæi

Linnæi bibliotheca botanica, 1747. 8vo.

Linnæi classes plantarum, 1747. 8vo.

Linnæi termini botanici a Hope, editi. Edinb. 8vo.

————— Rotheram editi, 1779, 12mo.

————— Giseke, 1781. 8vo.

Linn. (the son,) or suppl. Linnæi (filii) supplementum plantarum. 1781. 8vo.

Linn. (the son) dec. Linnæi (filii) decas plantarum rariorum horti Upsaliensis, decas I. & II. 1762, 1763. fol.

Linn. (the son) fasc. Linnæi (filii) plantarum rariorum horti Upsaliensis fascic. I. fol. [These works are characteristic outlines and please me much. I wish such were more common, and if coloured would I think generally please. Those of Jacquin are little more than outlines.]

Lipp enchiridium botanicum. 1779. 8vo.

Lob. adv. L'Obel (Jacobi I. Mag. Brit. Fran. & Hib. regis Botanographi, five plantarum historiæ physica tam indigenarum & Britannicæ inquilinarum quam exoticarum scriptoris) adversaria, eorumque pars altera & illustramenta. Lond. 1605. fol. p. p. 549. [Figures 273.]

Lob. obs. Lobel plantarum seu stirpium historia, (title page) stirpium observationes (title at the beginning of the work, p. 9. and the running title) 1576. fol. [Figures 1495, from Clusius and Dodonæus, with a few new ones of his own.]

Lob. ic. (Lobelii) plantarum seu stirpium icones. 1581. [In a long form resembling a musick-

book. Figures those of the adv. and obs. in all 2191 according to Haller, 2173 according to Trew. He began to publish in 1570 and died in 1616, then intending a larger herbal. What he had prepared for this work is said to have fallen into the hands of Parkinson.]

Lobelia nova stirpium adversaria, auct. P. Pena, addit. Gal. Rondeletii. Fol. Antverpiæ. 1576.

Loefl. Plantæ hispanicæ & Americanæ. [Republished at the end of the 2d vol. of Dr. Forster's translation of Bossu's travels through Louisiana, from p. 87 to the end.]

Lon. Loniceri botanicon, plantarum historiæ. 1565. fol. [Figures 723.]

Ludw. Ludwig ectypa vegetabilium (impressions of living plants taken by means of printer's ink) Fasc. VIII. 1760 to 1764. fol. (This is by far the most certain method of transmitting to posterity the knowledge of such species as have been found of greatest importance to mankind.)

Lyons fasciculus plantarum circa Cantabrigiam. 1763. 8vo.

Magn. bot. Magnol botanicum monspeliense five plantarum circa Monspelium nascentium περιγραφή. 1676. 12mo. [Figures 23.]

Mant. pl. Linnæi mantissa plantarum generum editionis VI, & specierum editionis II. 1767, published at the end of Syst. nat. Tom. II. ed. 12ma. 1767. 8vo. pars altera (the pages continued from the 1st part) 1771. 8vo.

Mapp.

Mapp. Mappi historia plantarum Alfaticarum.
1742. 4to.

Marshall, Arbuſtrum Americanum. Philadelph.
1785.

Mart. Martyn catalogus horti botanici Cantabrigienſis. 1771. 8vo.—Mantiffa plantarum horti botanici Cantabrigienſis. 1772. 8vo.

Mat. med. Linnæi materia medica, curante Schrebero. 1772. 8vo. [Plate 1.]

Matth. Matthioli commentarii in Dioſcoridem. 1565. fol. [Figures 932. Many of them characteristic, but his deſigner more of the ſpirit of a painter than a botaniſt.]

Mattufſcka enumeratio ſtirpium in Sileſia ſponte creſcentium. 1779. 8vo.

Merr. Merrett pinax rerum naturalium Britan-
nicarum. 1666. 12mo.

Mich. Michelinova plantarum genera. 1729. fol.

Mieg. Specimen II. obſervationum botanicarum.
1776. 4to.

Mill. Miller's (Philip) abridgement of his gar-
dener's dictionary. 1771. 4to.

Mill. ic. Miller's plates to the folio edition of
his gardener's dictionary. fol.

Mill. ill. Miller's (John) illuſtration of the ſex-
ual ſyſtem. 1777. fol. [Unneceſſarily expensive, by
giving 2 plates of each plant. Many plants well
figured for the firſt time. I wiſh we could have
ſaid *all* of them.]

Mill. off. Miller (Jof.) botanicum officinale, or a compendious herbal. 1722. 8vo. (In this book many of the Latin names of plants are accented. *Veronica* is given with the *i* short.)

Milnes botanical dictionary. 8vo.

Moench enumeratio plantarum indigenarum Hafsiæ præsertim inferiores. Pars I. 1777. 8vo.

Mont. Monti catalogi stirpium agri Bononiensis prodromus, gramina ac hujusmodi affinia complectens. 1719. 4to. [Plates 3.]

Morif. umb. Morison plantarum umbelliferarum distributio nova. 1672. fol. Tab. 12.

Mull. flora Fridrichsdalina sive methodica descriptio plantarum in agro Fridrichsdalina simulque per regnum Daniæ crescentium. 1767. 8vo.

Murr. prodr. Murray prodromus designationis stirpium Gottingensium. 1770. 12mo.

Muntingius de vera herba Britannica. 1681. 4to.

Munt. Muntingii phytographia curiosa edente Kiggelaer. Pars I. II. 1702. fol. [Figures 264.]

Nat. delin. Nature delineated. (A translation of *Spéctacle de la Nature*.) 4 vols. 1740. 12mo.

Neck. Necker methodus muscorum. 1771. 8vo.

Neck. gallo-belg. Necker deliciæ Gallo-Belgiæ sylvestres. 1768. 12mo.

Neck. phys. Necker phyfiologia muscorum. 1774. 8vo.

Oeder. Author of the first 3 vols. of the *Fl. dan.* to plate 540.

Park.

Park. par. Parkinson's *Paradisus terrestris*, or a garden of all sorts of pleasant flowers, &c. with a kitchen garden, and an orchard of all sorte of fruit-bearing trees. 1629. fol. [Figures 832, rude, abridged, but frequently expressive, many on the same block.]

Park. Parkinson's *theatrum botanicum*; the theater of plants, or an herball of large extent, &c. with the chiefe notes of Dr. Lobel, Dr. Bonham, and others inserted therein, &c. by John Parkinson, King's Herbarist. 1640. fol. [Fig. 2716.] [Many figures intended by Lobel for a general herbal fell into Parkinson's hands, and are said to be inserted in this work. The greater part of his figures are copies of *Ger. em.* but there are many new ones.]

Pena. See Lobel.

Pechey's complete herbal. 12mo.

Penn. scott.—hebr.—wales. Pennant's tours in Scotland and Wales, and voyage to the Hebrides.

Pet. Ray's English herbal illustrated by figures, by James Petiver, (composing the former half of the 2d vol. of his *Opera* in fol.)

Pet. concord. *Graminum, muscorum, fungorum, submarinorum, &c. Britannicorum concordia*; a methodical concordance of British Grasses, &c. [The last article but one in the 2d vol. of his works. Here may be seen the first beginnings of an English botanical nomenclature revived by Stillingfleet, and extended to the whole of the British Flora, in the 1st edition of the *Bot. Arrang.* and partially

partially adopted in the last edit. of the Fl. Ang.—Here also is found the modes of reference adopted by Mr. Lightfoot in the Fl. Scot. and which has been pursued, I flatter myself, with some improvements in this edition of the Bot. Arrang.]

Pet. gaz. Petiver gazophylacium naturæ & artis. (The plates in fol. composing the former part of the 1st vol. of his works, the descriptions, the latter part of the 3d vol. in 8vo.)

Pet. mus. Museum Petiverianum 1695. (forming with the descriptive part of the Gazophylacium, 1702, the 3d vol. of his works.) 8vo.

Phil. bot. Linnæi philosophia botanica. 1751. 8vo.

Philos. Transf. Philosophical Transactions. London.

Pluk. Plukenetii phytographia, 1691. [Forming Tom. I. of his works in Tomi IV. 1769, 4to ;—and the latter ends of Tom. III. and IV. One of the greatest collections of species. Figures 2715.]

Pluk. alm. Plukenetii almagestum botanicum, 1696. (Forming Tom. II. of his works.)

Pluk. amalth. Plukenetii amaltheum botanicum, 1705. (Composing the former part of Tom. IV. of his works.)

Pluk. mant. Plukenetii almagesti botanici mantissa. 1700. (Composing the former part of Tom. III. of his works.)

Pollich historia plantarum in palatinatu electorali sponte crescentium Tomi III. 1777. 8vo. [The largest collection of complete original descriptions.

The

The parts of the description are not placed in any fixed order.]

Ray. or R. syn. Raii synopsis methodica stirpium Britannicarum editio 3tia. 1724, 8vo. [Figures 67, which with numerous additions by the editor Dillenius.—ed. I. 1690. small 8vo.]

R. cat. Raii catalogus plantarum Angliæ & insularum adjacentium. ed. I. 1670;—ed. II. 1677, 12mo.

R. hist. Raii historia Tomi III. 1686 and 1704. fol. [A collection of the best descriptions of all the then known plants, with new ones, arranged in a system of his own.]

Reich. Reichard in his edition of Linn. sp. plant. intitled systema plantarum. A mere compiler.

Reich. fl. Reichard flora moeno-fractofurtana enumerans stirpes circa Francofurtum ad moenum crescentes. Pars I. 1772; pars II. 1778.

Reich. hort. Reichard enumeratio stirpium horti botanici Senkenbergiani qui Francofurti ad Moenum est. 1782. 12mo.

Reich. fyl. Reichard fylloge opusculorum botanicorum. 1782. 8vo.

Relh. Relhan floræ cantabrigiensis exhibens plantas agro cantabrigiensi indigenas. 1785. 8vo.

Relh. suppl. Relhan floræ cantabrigiensi supplementum. 1786. 8vo.

Renialmi specimen historiæ plantarum. 1611, 4to. [Figures among some of the first on copper, and

and scarcely since excelled. Most of his genera and figures are distinguished by single Greek names, after the example of the astrological botanist Thurnieffer.]

Retz. fl. Retzi floræ scandinaviæ prodromus. 1779. 8vo.

Retz. or Retz obs. Retzii observationes botanicæ fasciculus I, 1779; II, 1781; III, 1783, fol. [consisting of original observations illustrated with a few figures.]

Reyg. Reyger tentamen floræ gedanensis. Dantisci 1764. 12mo.

Riv. Rivini ordinēs plantarum flore monopetalo, & tetrapetalo. Lipsiæ, 1690 and 1691. fol. [Figures 379, the most excellent which had then appeared.]

Roi. Du Roi dissertatio inauguralis observationes botanicas sistens. 1771. 4to. [His specific characters unnecessarily long and diffuse.]

Rosé's elements of botany. 1775. 8vo.

Roth beytr. Roth beytrage zur botanick, (in German with Latin descriptions) Bremen 1782. 12mo.

Roth. verz. Roth verzeichniss derjenigen pflanzen, (in German with Latin descriptions.) Altenburg, 1781. 12mo.

Rouffseau's letters on botany translated, with additional letters by T. Martyn, B. D. 1785. 8vo.

Rottb. Rottböll descriptionum & iconum rariores & pro maxime parte novas plantas illustrantium. 1773. fol. [Numerous figures of foreign Grasses, &c.]

Rüling

Rüling ordines naturales plantarum. Goetting.
1774. 8vo.

*Rupp*i flora jenensis five enumeratio plantarum tam sponte circa Jenam et in locis vicinis nascentium, quam in hortis obviarum. 1726. 12mo. [Plates 9.]

Rupp. ab Hall. Rupp*i* flora jenensis edente Hallero. 1745. 12mo. [Plates 10, 4 of the old ones and 6 new ones.]

Rutty's essay towards a natural history of the county of Dublin. 2 vols. 1772. 8vo.

Sabbat. Sabbati hortus romanus secundum systema Tournefortii. Tom. IV. 1772.—1777. folio.

Schaeff. Schaeffer fungorum qui in Bavaria & Palatinatu circa Ratisbonam nascuntur icones. Tomi IV. 1762 to 1774. 4to.

Schaeffer botanica expeditior. 8vo. [A laborious but trifling and useless work, consisting of botanical tables on copper-plates.] Ratisbonæ, 1762.

Scheuch. Scheuchzeri agrostographia, five graminum, juncorum, cyperorum, cyperoidum iisque affinium historia, edente Hallero. (With an appendix by the editor, and a re-impression of the plates of Scheuchzer's prodromus.) 1775, 4to. [The figures 199, those of the Agrostographia bearing no sort of comparison with the accuracy of the descriptions.]

Scheuch. it. J. Jacobi Scheuchzeri itinera per Helvetiæ alpinas regiones. 1723. 4to.

Schmid. Schmidel icones plantarum & analyses partium, curante & edente Keller pictore norimbergensi.

bergenfi. 1762. fol.—Manipulus II. curante & edente Bischoff chalcographo norimbergenfi, 1776. fol. [p. 95 to 138, tab. 26 to 50, no descriptions of tab. 36 to 50. — This work does great honour to the author and to the artists of Nuremberg.]

Schmid. blas. Schmidel de Blasia, 1759, 4to.

Schmid. buxb. Schmidel de Buxbaumia, 1758, 4to.

Schmid. jungerm. Schmidel de Jungermannia, 1760. 4to.

Scholler flora barbiensis. Lipf. 1775. 8vo.

Schreb. Schreber Beschreibung der Grafer. Plates 1 to 40.—(in German) Leipf. 1774. fol. [Did this ingenious botanist mean to compel other nations to learn German, or to confine his communications to his fellow citizens?]

Schreb. ic. Schreber icones & descriptiones plantarum minus cognitarum. Decas I. 1766. fol.

Schreb. mant. Schreber mantissa editioni quartæ Linnæi materiæ medicæ. 1782. 8vo.

Schreb. phasc. Schreber de phasco. 1770. 4to.

Schreb. spic. Schreberi spicilegium flora Lipsicæ. 1771. 8vo.

Schreb. vert. Schreberi plantarum verticillatarum unilabiatarum genera & species. 1774. 4to.

Scop. Scopoli flora carniolica exhibens plantas Carniolix indigenas. Tomi II. 1772, 8vo.

Scop. ann. Scopoli annus I, II, & III. historico-naturalis. 1769; IV, 1770; V, 1772, small 8vo.

Scop. subt. Scopoli plantæ subterraneæ. 12mo.

Scopoli

Scopoli Introductio ad Hist. naturalem. 8vo. Pragæ. 1777.

Seguieri plantæ veronensis, seu stirpium quæ in agro Veronensi reperiuntur methodica synopsis. Tomus I. 1745. 8vo.

Spalowsky dissertatio inauguralis de Cicuta, Flammula Jovis, Aconito. Pulsatilla, Gratiola, Dictamno, Stramonio, Hyoscyamo, & Colchico, 1777. 8vo. [Characteristic figures. Quoted under the title of *Stoerck*.]

Sp. pl. Linnæi species plantarum, exhibentes plantas rite cognitæ ad genera relatas. Editio 2da. Tom. I. 1762; II, 1763. 8vo. [The foundation of all true botanic knowledge respecting species.]

Stilling. Stillingfleet's miscellaneous tracts. 1762, 8vo. [Several of the drawings by Mr. Price, a country gentleman of Herefordshire.]

Stoerck. [See *Spalowsky*.]

St. Jonathan Stokes, M. D.

Stechmann de Artëmisiiis, 1775. 4to.

Swert. Swertii florilegium. Tomi II. fol. Frank. 1612. [Figures 560, on copper, but coarse.]

Syst. nat. Linnæi systema naturæ. ed. XII. Tomi III. 1766, and 1767, 8vo.

Syst. pl. Linnæi systema plantarum curante Reichard. Tomi IV. 1779, & 1780. 8vo.

Syst. veg. Linnæi systema vegetabilium, editio XIV. (meaning the 14th republication of the vegetable part of the systema naturæ) curante Murray. 1784. [Containing new species added by Jacquin & Murray]—ed. XIII. 1774. 8vo. *Thal.*

Thal. Thalii sylva Hercynia sive catalogus plantarum sponte nascentium in montibus et locis vicinis Hercyniæ quæ respicit Saxoniam. 1588. small 4to. (published with Camerarii hort.) [Figures 14.]

Thurneisseiri or *Turniefferi* historia sive descriptionum plantarum omnium liber I. 1578. fol. (Treating of umbelliferous plants in ovals about 3 inches long, with coloured ornamented borders, and each plant distinguished mostly by one, but sometimes two Greek words. p. p. 156.) An astrological botanist.

Tilli catalogus plantarum horti Pisani. 1723. fol. [Figures 83.]

Tourn. Tournefort institutiones rei herbariæ. Tom. III. 1700. 4to. [The foundation of the true knowledge of genera. Plates 489.]

Trag. Tragi de stirpium maxime vero earum quæ in Germania nascuntur commentarii, interprete Kybero. 1552. small 4to. [Chiefly imitations of Fuchsius.]

Trew plantæ rariores edente Keller. 1763. fol.

Vaill. Vaillant botanicon parisiense ou denomination par ordre alphabetique des plantes qui se trouvent aux environs de Paris. 1727. fol. [Fig. 840.]

Vandelli Fasciculus plantarum. 4to. 1771.

Volck. Volckameri flora Noribergensis, sive catalogus plantarum in agro Noribergensi tam sponte nascentium

nascentium, quam exoticarum in viridariis ac medico horto enutritarum. 1700. 4to.

Walc. Walcott flora Britannica indigena. No. I. to XIV.—[I wish this ingenious gentleman would presume his work, becoming as curious as Mr. Curtis in the selection of characteristic specimens, and beginning the proposed continuation with such plants as are not included within the limits of the Flora Londinensis. The parts of fructification might be added, and perhaps it would be well to colour some copies in the manner of the works of Jacquin.]

Walther Designatio plantarum quas hortus Waltheri pathologiæ professoris Lipsiensis complectitur. 1735. 8vo.

Warner plantæ Woodfordienses; a catalogue of the more perfect plants growing spontaneously about Woodford in Essex, 1771. 12mo.

Weber. Weberi spicilegium floræ goetingensis plantas imprimis cryptogamicas Hercyniæ illustrans. 1778. 8vo.

Weig. fl. Weigel flora pomerano-rugica exhibens plantas per Pomeraniam anteriorem suecicam & Rugiam sponte nascentes. 1769. 12mo.

Weig. hort. Weigelhortus Gryphicus. 1782. 4to.

Weis, Plantæ Cryptogamicæ Floræ Gottingensis. 8vo. 1770.

Wieg. Wiegel observationes botanicæ. 1772. 4to. [Rather too fond of change.]

Wiggers

Wiggers primitiæ floræ Holfaticæ. 1780. 8vo. [His novelties will generally bear examination.]

Wilcke flora Gryphica exhibens plantas intra miliare sponte nascentes. 1765. 12mo.

Willich obs. Willich observationes botanicæ (published in an inaugural dissertation 1747, and republished in Reichard fylloge, p. 82 to 94)—de plantis quibusdam observationes, Gotting. 1762. [republished in Reich. fylloge, p. 94 to 142.—A very ingenious observer.]

Willich ill. Willich illustrationes quædam botanicæ. Gotting. 1766. (republished in Reich. fylloge, p. 142 to the end. In the first 5 leaves, of sheet K, the pages are repeated.)

With. William Withering. M. D.

Wulff flora borussica. 1765. 8vo.

[Wulff] genera plantarum vocabulis characteristicis definita. [Dantisci] 1776. [I once formed a botanical language on a plan somewhat similar, but I soon discovered that in proportion as plants resembled each other, the difficulty of distinguishing the sounds or combinations of letters expressive of them, must proportionably increase. Languages formed on plans of this kind, must be full of such ambiguous names as Clutia, and Clusia.]

Zanon. Zanonii rariorum stirpium historia, edente Montio. Bonon. 1742. [Figures rude, but we must recollect that they were first published in 1675.]

Zinn catalogus plantarum horti academici & agri Gottingensis. 1757. 8vo.

Clafs.

for additions see Vol 3 Page 128.

Class I.

M O N A N D R I A.

I. C H I V E.

Order I.

M O N O G Y N I A.

I. P O I N T A L.

11. HIPPU'RIS. - - Empalement o. Blossom o.
10. SALICOR'NIA. - Empal. 1 leaf. Bloss. o.
† Aphanes.
-

Order II.

D I G Y N I A.

II. P O I N T A L S.

13. CALLIT'RICHE. - Empal. o. Bloss. 2 Petals. Cap-
sule 2 Cells.

11. HIPPU'RIS. Mare's-tail.

EMPALEMENT, O.

BLOSSOM, O.

CHIVE, *Thread* single, growing upon the receptacle of the flower. *Tip* slightly cloven.POINTAL, *Seed-bud* oblong, superior. *Shaft* single; awl-shaped, upright, longer than the chive; situated betwixt the chive and the stem. *Summit* sharp.

SEED-VESSEL, O.

SEED, single, roundish, naked.

ESSENTIAL CHARACTER. *Cup* o. *Petals* o. *Summit* undivided. *Seed* 1.

common

HIPPU'RIS *vulgaris*. Leaves in eights, awl-shaped. LINN. suppl. 81.

Giseke. 32. *Fl. dan.* 87. *J. B.* iii. 732. *fig.* on the left hand the best. *Ger.* 953. *C. B. th.* 243. 4. *Park.* 1200. 4. *Seguier* i. 2? not in flower. (*Dod.* 113. 2. reprinted by *Ger. em.* 1114. 6. is an *Equisetum*, as is evident from the spike which terminates the left hand stem). *Parts of Fruetification.* *Vaill. Mem. de Paris.* 1719. 1. 3.

Leaves narrow; growing in whorls round the joints, 12 or more at each joint. *Flowers* equal in number to the leaves. *Stem* straight, jointed. The flower of this plant is found at the base of each leaf, and is as simple as can be conceived, there being neither empalement nor blossom; and only 1 chive, 1 pointal, and 1 seed. LINN.

Leaves to 13 in each whorl. *Flowers* with only *Pointals* sometimes intermixed in the same whorl. *Tip* when young, truly fitting; its cells of a dark red. SCOP.

Mare's-tail. *Paddockpipe.*

Muddy ponds and ditches, not common. [About a mile from Stafford, on the foot-road to Aston. W.] P. May.

It is a very weak astringent. Goats will eat it, but Cows, Sheep, Horses and Swine refuse it.

10. SALICOR'NIA. Glass-wort.

EMPAL. 4 edged, lopped, distended, permanent.

BLOSS. o.

CHIVE. *Thread* single, undivided, longer than the cup.

Tip double; oblong; upright.

POINT. *Seed-bud* oblong egg-shaped. *Shaft* simple, standing under the chive. *Summit* cloven.

S. VESS. o. The cup distended and blown up includes the seed.

SEED single.

Ess. CH. *Cup* bellying; entire. *Petals* o. *Seed* 1.

Obs. The number of chives not very certain; sometimes there are 2 in each flower. See Philof. Transf. vol. 57. pl. 312.

SALICOR'NIA *herbacea*. Herbaceous, spreading. *jointed*
Joints flatten'd and between nick'd and cloven, at the end.

Fl. dan. 303. *cop. in Blackw. auct.* 598. *Math.* 465. *Dod.* 82. 1. *reprint.*

by Lob. adv. 170. 2. and *Ger.* 535. 1. *Pet.* 9. 3. *H. ex.* v. 33.

8. *J. B.* iii. 705. 2. n. 1. 11. 111. *Park.* 280. 4. *Barr.* 192.

Spike jointed. *Flowers* near together at each joint. BASTER.

Flowers 3 together on each side the stem, in the clefts of the joints. *Joints* thicker at the end, and blunt. *Stem* wide-spreading.

Glass-wort. *Salt-wort.* *Sea-grass.* *Marsh Samphire.*

Sea-shore, common.

A. Aug. Sept.

From the ashes of this plant, a fossil alkaly is obtained, which is in great request for making soap and glass. It is chiefly made on the coast of the Mediterranean, and is called Soda. The green plant steeped in salted vinegar makes a pickle very little inferior to Samphire. The whole plant has a saltish taste, and is greedily devoured by cattle.

Salicornia europæa herbacea. HUDS. α . β .

SALICOR'NIA *fruticosa*. Stem upright, shrubby. *woody*

Pet. 9. 4.

Evergreen; much larger than the *S. herbacea*. *Spikes* different, never seen in Sweden, though the *herbacea* very common; the difference however very little if any. LINN.

Joints nearly of an equal thickness; blunt; near together. *Stem* more branched than the *herbacea*. GER. PROV. 328.

LIGHTFOOT and HUDSON regard it only as a variety of the former species.

Salicornia europæa fruticosa. HUDS. γ . δ . η .

MONANDRIA DIGYNIA.

Near the isle of Sheepy, and in the isle of Grain in the Thames. P. Aug. Sept.

Order II.

DIGYNIA. II. POINTALS.

13. CALLIT'RICHE. Star-grafs.

EMPAL. O.

BLOSS. *Petals* 2, bowed inwards, channelled; tapering to a point, standing opposite to each other.

CHIVE. *Thread* single, long, crooked. *Tip* simple.

POINT. *Seed-bud*, nearly round. *Shafts* 2, hair-like, crooked. *Summits* sharp.

S. VESS. *Capsule* roundish, a little compressed; with 4 angles. and 2 cells.

SEEDS. Solitary, oblong.

ESS. CH. *Cup* O. *Petals* 2. *Caps.* 2 *Cells.* 4 *Seeds.*

OBS. In the first species the chive and pointals are in separate flowers.

HUDSON'S GENERIC DESCRIPTION.

B. Flowers with only Chives.

EMPAL. O.

BLOSS. *Petals* 2, opposite, oblong, concave, approaching.

CHIVE. *Thread* 1, very long, straight. *Tip* roundish, undivided.

POINT. S. VESS. SEEDS. O.

F. Flowers with Pointals on the same Plant.

EMPAL. BLOSS. as in B.

POINT. *Seed-bud* superior; flattened. *Shafts* 2, thread-shaped, very long.

S. VESS. *Caps.* inversely heart-shaped, flattened; of 2 cells, 4 valves.

SEED. Single, oblong.

H. Flowers with Chives and Pointals on the same Plant.

EMPAL. BLOSS. CHIVE, as in B.

POINT. S. VESS. SEEDS, as in F. (St.)

ernal

CALLIT'RICHE *ver'na*. Upper leaves oval. Chive and pointals in separate flowers.—

Stems feeble, numerous. Bloss. small, white. Upper leaves growing near together in form of a star; lower ones in pairs. It flowers in the Spring.

Water Starwort. Water Fennel. Star-headed Water Chickweed.

VAR.

VAR. 1. Lower leaves strap-shaped, blunt, as if lopped; a line in breadth. HALL.—Leaves oblong. Chives and pointals in different plants. Fruit nicked at the end. SCOP. (ST.)

Ger. 830. 3. Park. 1258. 10. Pet. 6. 2.

Barren and the fertile flowers frequently opposite to each other, on different sides of the stem, in the bosom of the corresponding leaves. MR. WOOD.

All the leaves sitting. Lower leaves spear-shaped, opposite, distant. Upper leaves slightly notched at the end. Fertile flowers in the bosom of the lower leaves; barren ones amongst the upper leaves, which are crowded together. Petals thick, flat, bowed inwards at the edge like a crescent. When magnified they appear to be a collection of air vessels, and are undoubtedly intended to float the flower. WITH. Pl. 13. f. 1.

In ditches and still waters, frequent.

A. Apr. Aug.

A Horse refused it. ST.

VAR. 2. All the leaves roundish, on leaf-stalks, very entire; in pairs, except the lower ones. Roots from the insertions of the leaves. HALL. 553. (ST.)

Fl. dan. 129. J. B. iii. 786. 2. Park. 1263. 2.—Parts of fructification. Vaill. 32. 10.

Chives 2. VAILL.

VAR. 3. Leaves egg-shaped. Chives and pointals in various dispositions. SCOP. Creeping, striking roots into the earth.—DILL. in R. Syn. 289. (ST.)

In places where water, that has stood during the winter, has been dried up.

CALLIT'RICHE *autumnalis*. All the leaves strap-shaped, cloven at the end. Chive and pointals in the same flower.— *autumnal*

Pet. 6. 4. Gmel. iii. 1. 2. *bad*.

Leaves oblong. Chives and pointals in different plants. SCOP. Blofs. yellowish white. WITH.

Ditches and still waters, frequent.

A. Sept.

It sometimes grows so thickly matted together as to allow one to walk upon it without sinking.

Obs. SCOPOLI regards the *C. verna* (1.) and the *C. autumnalis*, as the same species, combining them together under the name of *C. fontana*; making the *C. verna* (3.) a distinct species, by the title of *C. stagnalis*. MR. HUDSON considers them all as one species, which he calls *C. aquatica*; giving as a specific character—"Leaves notched at the end." (ST.)

Class II.

D I A N D R I A ;
II. C H I V E S.

Order I.

MONOGYNIA; I. POINTAL.

† *Lepidium ruderales*. *Salix hermaphrodita*. *Fraxinus excelsior*.

* *Blofs* 1 regular *petal*; beneath.

18. *LIGUS'TRUM*. - *Blofs*. with 4 clefts. *Berry* with 4 seeds.

** *Blofs*. 1 irregular *petal*; beneath. *Seeds* in a capsule.

26. *VERON'ICA*. - *Blofs*. with 4 divisions in the border, the lower segment narrowest.

33. *PINGUI'CULA*. - *Blofs*. gaping, ending in a spur. *Empal*. cloven into 5 parts.

34. *UTRICULA'RIA*. - *Blofs*. gaping, ending in a spur. *Empal*. 2 leaves.

*** *Blofs*. 1 irregular *petal*; beneath. *Seeds* naked.

36. *LY'GYPUS*. - - *Blofs*. nearly equal. *Chives* distant from each other.

42. *SAL'VIA*. - - - *Blofs*. gaping. *Threads* very short, each supporting a cross thread.

† *Salicornia herbacea*.

**** *Blofs*. superior.

25. *CIRCE'A*. - - *Cup* 2 leaves. *Blofs*. 2 petals, inversely heart-shaped.

Order II.

DIGYNIA; II. POINTALS.

46. *ANTHOSAN'THUM*. *Empal*. Husk oblong, containing 1 flower. *Blofs*. 2 husks, furnished with awns.

† *Bufonia*.

18. LI-

18. LIGUS'TRUM. Privet.

EMPAL. *Cup* 1 leaf; tubular; very small; with 4 upright blunt teeth in its rim.

BLOSS. 1 petal; funnel-shaped. *Tube*, cylindrical, longer than the cup. *Border* expanded; divided into 4 egg-shaped segments.

CHIVES. *Threads* 2; simple, opposite. *Tips* upright, nearly as long as the blossom.

POINT. *Seed-bud* nearly round. *Shaft* very short. *Summit* thick, blunt, cloven.

S. VESS. *Berry* globular; smooth; of 1 cell.

SEEDS. 4, convex on one side; angular on the other.

ESSENT. CHARACT. *Bloss.* 4 clefts. *Berry* 4 seeds.

LIGUS'TRUM *vulga're*.

common

Mill. 162. 2. Math. 170. *Blackw. auct.* 140. Ger. 1208. J. B.

i. 528. 2. copied by Johnst. 73. 9. Fuchs. 480, copied by Traugus, 1005. Ger. em. 1394. Swert. ii. 38. 4. (Park. 1446, is the figure of a *Euphorbia*.)

Bloss. white, in bunches, terminating. *Berries* black.—

Leaves sometimes growing by threes, and sometimes enlarged at the base. *Berries* egg-shaped, continuing through the winter. SCOP.

Fruit sometimes white, and *Berry* sometimes with 2 cells. DU ROI.

Shaft as long as the chives. Mr. HOLLEFEAR.

Segments of the *Bloss.* thick and fleshy. *Chives* generally 2, sometimes 3 or 4, in each flower. *Threads*, *Tips*, *Pointal*, white. *Leaves* betwixt egg and spear-shaped, very entire; growing in opposite pairs. *Fruit-stalks* a little woolly when magnified; every other part of the plant perfectly smooth. *Leaves* sometimes variegated with white. WITH.

Privet. Prim. Print.

Hedges in gravelly soils.

S. June. July.

The berries are filled with a dry, spongy, violet pulp, from which a rose-coloured pigment may be prepared. SCOP.

It is planted to make hedges;—it grows fast, and may be raised from cuttings. Mr. SOUTHALL.

With the addition of allum, the berries dye wool and silk of a good and durable green; for this purpose they must be gathered as soon as they are ripe—the leaves are bitter, and slightly astringent.—Oxen, Goats, and Sheep eat it, Horses refuse it.

The Insects observed to feed upon this plant are the Sphinx *Ligustri* and *Phaena Syringaria*.

26. VERONI'CA. Speedwell.

EMPAL. Cup with 4 divisions ; permanent. Segments spear-shaped, sharp.

BLOSS. Wheel-shaped ; of 1 petal. Tube nearly as long as the cup. Border flat, divided into 4 egg-shaped segments. Lower segment narrowest ; that opposite to it the broadest.

CHIVES. Threads 2 ; thinnest at the bottom ; ascending. Tips oblong.

POINT. Seed-bud compressed. Shaft thread-shaped, declining ; as long as the chives. Summit simple.

S. VESS. Capsule inversely heart-shaped, compressed at the point ; with 2 cells and 4 valves.

SEEDS. Several ; roundish.

ESS. CHAR. Border of the blos. with 4 divisions ; the lower segment the narrowest. Caps. 2 cells.

OBS. The tube of the blos. is different in different species ; in most very short, but in the 3 first longer.

* Flowers in spikes.

spiked

VERONI'CA *spicata*. Spike terminating. Leaves opposite, blunt, scolloped. Stem ascending ; undivided. —

With a single spike. — Fl. dan. 52. Clus. i. 347. 3. reprinted by Lob. obs. 250. 3, and Ger. em. 627. 4. Vaill. 33. 4. J. B. iii. 282. 3 and 4. original. H. ex. iii. 22. 4. (Park. 550 is the *V. spuria*.) With 2 or more spikes — (Specimen with 3 spikes given me by the son of Fref. Jacquin, but by no means the plant, figured by Clus. i. 346. 2, reprinted by Ger. em. 623. 6. and J. B. iii. 284. 1. to which Scopoli and Reichard refer as a var. of this species ; or J. B. iii. 282. 2, referred to by Scopoli, which Bauhine expressly tells us is a copy of Fuchius's fig. of the *V. officinalis*.)

Spikes sometimes more than one. Blos. blue, white, or flesh-coloured. REICH.

Leaves spear-shaped, toothed, somewhat hairy ; running down the leaf-stalks. Flowers set close. SCOP.

Upright

SCOPOLI'S Distribution of the Species.

1. Leaves blunt.

V. fruticulosa, *serpyllifolia*, *Beccabunga*.

2. Leaves pointed.

(a.) upright.

V. Anagallis, *Chamædryas*, *montana*, *spicata*, *arvensis*.

(b.) trailing.

V. officinalis, *scutellata*, *agrestis*, *hederifolia*, *triphylla*.

Upright spiked male Speedwell, Smallest Fluellin.

Mountainous moist pastures. (Cavenham heath near Bury,
Suff. Mr. WOODWARD.) P. June.

Cows and Sheep will eat it, Goats and Horses refuse it.

VERONI'CA hybrida. Spikes terminating. Leaves *Welsh*
opposite, bluntly serrated, rough. Stem upright.—

Ray. 11. good.

Stems simple, ascending, about a span long. *Spike* oblong, terminating. *Leaves* oval, rather blunt, downy, green on both sides; serratures large, blunt. *Leaf-stalks* bordered. *LINN.*

Bloss. blue; the tubular part hairy within. *Leaves* thick and fleshy; rough with short white hairs, which grow out of small prominent glands. *WITH.*

Veronica spicata hybrida. *Huds.*

Welsh Speedwell. Bugle-leaved Speedwell.

On Craig Wreiddin, Montgom. [Near Penny-bridge in Lancashire, Mr. WOODWARD.] P. July.

VERONI'CA officina'lis. Spikes on lateral fruit-stalks. Leaves opposite. Stem trailing.—

Ludw. ect. 100. Curt. n. 33. fasc. 3. Fl. dan. 248. Ger. 502. 1.

Riv. 93. 2. Veronica. J. B. iii. 282. 1. Black. 143. Fuchs.

166, copied by *Tragus* 207, and *J. B. iii. 282. 2. Math.*

693, copied by *Dod. 40. 3.*, reprinted by *Lob. obs. 250. 2.* and

Ger. em. 626. 2., again copied by *Park. 550. 2.* and in the *H.*

ox. iii. 22. 7. (*Dod. 40. 2.* reprinted by *Lobel. obs. 250. 1.*

and *Ger. em. 626. 1.* and cop. by *Park. 550. 1.* seems to be

a different plant; for in none of the specimens which I have examined,

nor in the preceding figures, are any of the strap-shaped

leaves to be found which garnish the lower part of the fruit-stalk in the

figures last referred to.)

Stems scattered on the ground, throwing out roots from the lowermost knots. *Leaves* ascending, toothed. The whole plant hard and dry. *Fruit* ripe in Sept. *Scop.*

Little fruit-stalks shorter than the floral leaves.—*Tube* of the *Bloss.* about half as long as the cup; white. *Border* pale purple: the broadest segment marked with 6 or 7 deeper purple streaks; the narrowest segment with 3, and each of the lateral segments with 4. *Tips* arrow-shaped. *Stems* cylindrical, woolly. *Leaves* opposite, egg-shaped, serrated; hairy underneath, and at the edges. *Floral-leaves* strap-shaped. Some of the *Fruit-stalks* are so near the end of the stem that at first view they appear terminating, but upon more accurate examination we find one or more pairs of leaves beyond them. *WITH.*

Common Speedwell. Male Speedwell. Fluellin.

Barren ground ; heaths.

P. May. June.

The leaves have a slight degree of astringency and bitterness. An infusion of them is recommended by Hoffman, as a substitute for tea, but it is more astringent and less grateful.

It is eaten by Cows, Sheep, Goats, and Horses. Swine refuse it.

✱✱ *Flowers in broad bunches.*

Shrubby

VERONI'CA *fruticulo'sa*? Broad-topped spike terminating. Leaves spear-shaped, blunt. Stems somewhat shrubby.—

Hall. 16. 1. Fl. dan. 342. Pona in Clus. ii. 337. 1. reprinted by Ger. em. 628. 5. and copied by Park. 551. 1.—not the V. saxatilis as Hall. and the German synonyms suppose, as is evident from the description of the colour of the blossoms.

Shoots perennial. Stems trailing and perennial at bottom, upright and dying down at top. Leaves somewhat scolloped ; upper ones larger, smooth. Fruit large. Empal. with 4 clefts ; slightly pubescent. Bloss. white ; with bloody streaks. Fruit-stalks longer than the floral-leaves. LINN.

Stems simple ; always upright. Leaves egg-spear-shaped, or oblong ; concave, pointed, toothed here and there. Bloss. flesh-coloured ; sometimes white ; not large. Empal. segments tapering to a point. Caps. egg-shaped, blunt, not nicked at the end. SCOP.

Leaves opposite. Caps smooth. Fruit-stalks longer than the floral leaves. JACQ.

Veronica frutescens. SCOP.

Mountains. Ben Nevis, Scotland. Mr. HUDSON. † S. May. June.

Mr. Lightfoot had inserted on the authority of others the *V. alpina*, but the examination of a specimen proved it to be only a slight variety of the *V. serpyllifolia*.

† Besides the above references, Mr. HUDSON has given also the following to what HALLER (545 β) considers as a variety of the *V. fruticulosa* ; but SCOPOLI and LINNÆUS THE SON, (*Suppl.* 85.) think it a distinct species, which they have called the

rock **VERONICA** (*saxatilis* ?) Broad-topped spike terminating.

Leaves opposite. Empalements (omitted by Linn. but probably from an error of the press) smoothish. Fruit-stalks longer than the leaves. JACQ. *enum. p.* 200.

Clus. i. 347. 1. copied by Park. 551. 7. and H. ox. iii. 22. 5.

(not the *V. fruticulosa* as the German synonyms make it, as is evident from the description copied from Clusius.) *J. B. iii. 284. 3.*

(*Pluk. 232. 5. Hall*)

Stems branched, wide-spreading, producing buds. Leaves sitting, nearly egg-shaped, blunt, flattish, very entire. (But both

J. B.

VERONICA *serpyllifolia*. Bunches terminating, smooth nearly resembling a spike. Leaves smooth, egg-shaped, scolloped.—

Leaves with 3 fibres, CURT.

Curt. n. 5. fasc. i. Fl. dan. 492. Walc. Dod. 41. 1. reprinted by ob. Lobs. 250. 4, and Ger. em. 627. 2. J. B. iii. 285. 1. Riv. 99. Veronica minima repens. Id. t. 93. f. 147. 2. V. erecta sylvestris? Pluk. 233. 4. Ger. 503. 3. (Gouan. illustr. 1. 2. has every appearance of being a distinct species.)

Leaves elliptical, seldom more than 4 pair, the rest alternate. Blofs. white; the 3 upper segments marked with blue lines; the throat and tube of a greenish tinge. Threads white. Tips blue. Shaft reddish. Summit white, circular, flat. Fruit-stalks shorter than the floral-leaf immediately below it, pubescent, hairs knobbed. Empal. not so hairy as the fruit-stalks. Scop.

It is difficult to distinguish this from the *V. spicata*, in which Linnæus says the flowers form a “terminating spike,” and in this he says they form a “terminating bunch nearly resembling a spike.” Linnæus gives no other difference by which they can be distinguished, and it is evident that this is hardly sufficient. The stem in the *serpyllifolia* is often undivided as well as in the *spicata*, and when it is branched it is only near the root. Cup deeply divided into 4 equal pear-shaped segments, not evidently hairy. Blofs. pale blue; upper segment with 5 or 8 purple lines, lateral segments with 3; smallest segment white. Tips blue. Seed-bud nearly heart-shaped; Shaft permanent; blue towards the top; Summit whitish. S. Veff. fringed with hairs round the edge. Stem cylindrical, ascending; several rising from the same root, but frequently each has its own particular root; bearing from 5 to 7 pair of leaves; mostly opposite; the upper ones intermixed with the flowers. Leaves egg-shaped, sitting, smooth, very slightly scolloped. Upper floral-leaves

J. B. and Clus. and even Scop. himself in his first Ed. describe them as minutely scolloped here and there, as they are in a specimen given me by the Son of Professor JACQUIN. ST.) Broad-topped spike sometimes running into a bunch. Empal. and Caps. with a very slight hairiness, but sometimes quite smooth. Blofs. segments roundish, very blunt. Floral-leaves sometimes alternate. JACQ.

Veronica fruticans. JACQUIN.

The Higher Alps. SCOP.

June. July. JACQ.

Mr. Hudson subjoins to each synonym a mark of doubt.

Not having seen Mr. Hudson's specimen, I can only offer the above synonyms, to enable some Botanist on the spot to ascertain this very dubious plant. DR. STOKES.

alternate, spear-shaped, twice as long as the fruit-stalks. *Flowers* on short fruit-stalks, one rising out of the bosom of each floral-leaf, and forming altogether a long, leafy, spike-like bunch, terminating. **WITH.**

Smooth Speedwell. Pauls Betony.

Meadows and pastures, not uncommon.

P. May.

Horses, Cows, Goats, and Sheep eat it,

Brook-lime

VERONI'CA Beccabunga. Bunches lateral. Stem creeping. Leaves flat; egg-shaped.—

Ludw. ect. 30. Curt. n. 15. fasc. ii. Scheldr. (Brookl.) Riv. 100.

Beccabunga. Walc. Fuch. 725. copied by Tragus 188. Blackw.

48. 1. and 2. Fl. dan. 511. Dod. 593. 1. reprinted by Lob. obs.

248. 3. Ger. em. 620. 1. copied by Park. 1236. 1. and ill

copied in the H. ox. iii. 24. 24. Ger. 496. 1. (Blackw. auct.

48. 2. Fuch. and Trag. are regarded by Thal. C. B. and Trew

in Blackw. auct. as specifically differing from the other.)

Smooth, succulent. Stem cylindrical. Leaves edged with short teeth, terminated by glands. Bloss. each segment terminated by a gland, and marked at the base with 2 white lines. **Scor.**

Leaves sitting; serrated. Cup with 4 unequal divisions. Bloss. blue; sometimes white. Tube of the bloss. much shorter than the cup. Border with 4, and sometimes 5 unequal divisions. Seed-bud with a thick, glandular, yellowish green substance under its base. **WITH.**

Brooklime.

Slow shallow streams, and near springs that seldom freeze. P. June.

The leaves are mild and succulent, and are eaten in sallads early in the Spring. Cows, Goats, and Horses eat it, Swine refuse it.

This, and some other species of *Veronica*, afford nourishment to the *Papilio cinxia*, *Curculio* and *Chrysomela Beccabungæ*.

Pimpernel

VERONI'CA Anagallis. Bunches lateral. Stem upright. Leaves spear-shaped, serrated.—

Ger. 496. 3. Pet 51. 12. Ger. 496. 2. cop. in Ger. em. 620. 2.

Riv. 100. (referred by Trew in Blackw. auct. to his lesser var. of

V. Beccabunga.) J. B. iii. 791. 1. Blackw. auct. 48. 3. a

branch. H. ox. iii. 24. 25.

Bunches numerous. Seeds very small. **Scor.** Bloss. pale purple.

Long-leaved Brook-lime. Water Pimpernel.

Slow streams and shallow ponds. (Ditches about Tamworth. W.)

P. July. Aug.

Cows, Goats, and Sheep eat it. Horses and Swine refuse it.

VERONI'CA *scutella'ta*. Bunches lateral, alternate. *narrow-*
little fruit-stalks pendant. Leaves very entire; strap-*leaved*
shaped.—

Riv. 96. *V. palustris angustifolia*. Fl. dan. 209. J. B. iii. 791. 2.

H. ox. iii. 24. 27.

Bunches slender, limber, wide-spreading. LINN.

Stems angular. Fruit-stalks branched; shorter than the leaves.
Cup small. Caps. 4 seeds generally in each cell. Scop.

Leaves always finely toothed. JACQ. enum. (as in fig. of Fl.
lan. St.)

Leaves opposite; betwixt strap and spear-shaped; set with 2 or 3
pair of very minute teeth; lower leaves with most teeth. Stem often
trailing and sending out roots from the joints. Blos. white or
purplish. WITH.

Poor swampy soil. [Boggy meadows near Bungay, and in the
fens of Cambridgeh. Mr. WOODWARD.] P. June. Aug.

Eaten by Cows, Goats, Sheep, and Horses. Swine refuse it.

VERONI'CA *monta'na*. Bunches lateral; of only *stalled*
few flowers. Cup rough with hair. Leaves wrinkled;
egg-shaped, scolloped; on leaf-stalks. Stem feeble.—

Bunches elongated, thread-shaped. Leaves blunt, serrated; ser-
ratures thick. Stem and leaf-stalks rough with hair. LINN. the SON.
Capsule longer than the cup. From CURTIS.

Jacq. fl. 109. Curt. n. 37 fasc. iv. H. ox. iii. 23. 15. Pet. 51. 4. Riv. 93.

Stem creeping. Cups with 4 clefts. Leaves red underneath.
Bunches, as in the *V. scutellata*, slender; much longer than the
leaves; with few flowers. Fruit round and flat; notched at the
top and at the base. LINN.

Blos. lower segment white. Seeds 4 in each cell; flat, egg-shaped;
with an eye. HALL. gott. 235. Leaves sometimes heart-shaped. Scop.

Mountain Madwort.

Hedges and moist woods. [Wood at the west end of Powick
Ham, near Woreester. Dr. STOKES.] P. May.

VERONI'CA *Chama'drys*. Bunches lateral. Leaves *Germander*
egg-shaped, wrinkled, toothed, without leaf-stalks. Stem
feeble.—

Capsule a little shorter than the cup. JACQ.

Curt. n. 4. fasc. i. Fuch. 872; copied by Trag. 203. and J. B.
iii. 286. 1. Fl. dan. 448. Walc. Ger. 537. 4. Riv. 94. *V.*
prat. latif. Clus. i. 352. 1. reprinted by Ger. em. 657. 3. and
Lobel. obs. 259. 4. and ill copied in H. ox. iii. 23. 12.

Leaves fibred, jaggedly toothed, woolly; their breadth more than
half the length; lower ones oval, upper ones heart-shaped.

Threats

Threads at the base and point, and throat of the blofs. white. *Dust* white. *Shaft* whitifh at the base. *Summit* reddifh. *Seed-bud* woolly. **Scop.**

Leaves betwixt heart and egg-fhaped. *Fruit-ftalks* and fegments of the cup, hairy: thefe hairs, when magnified, appear terminated by minute globules. (See Pl. 13. f. 2.) *Blofs.* a fine blue. *Bunches* long, oppofite, upright. **With.**

Wild Germander.

Pastures; fides of hedges.

P. May.

The leaves are a better fubftitute for Tea than thofe of the *V. officinalis*, being more grateful and lefs aftringent. Cows and Goats eat it, Sheep, Horfes, and Swine refufe it.

*** *Fruit-ftalks with 1 flower.*

procumbent

VERONI'CA *agrestis*. Flowers folitary. Leaves heart-fhaped, jagged, fhorter than the fruit-ftalk.—

Leaves on Leaf-ftalks. **Huds.** Stem trailing. **Curt.**

Curt. n. 7. fasc. i. Fl. dan. 449. Riv. 99. V. fol. chamædryos.

Walc. Fuch. 22. copied by J. B. iii. 367. 1. H. ox. iii. 24.

22. Dod. 31. 2. reprinted by Ger. em. 616. 1. and copied by

Park. 764. 4. bad.

Blofs. blue; fometimes white. **LINN.**

Segments of the cup egg-fhaped, equal. **GOUAN.**

Flowers early in April, often in March. *Blofs.* with fome blue and fome white fegments. *Seeds* from 4 to 8 in each cell. **Mr. DICKENSON.**

Germander—Chickweed.

Pastures and ploughed fields.

A. April.

Cows, Goats, Sheep, and Horfes eat it.

wall

VERONI'CA *arvensis*. Flowers folitary. Leaves heart-fhaped, jagged, longer than the fruit-ftalk.—

Sitting. **Huds.** The lower ones on leaf-ftalks. **Curt.**

Col. phyt. 8; well copied by J. B. iii. 367. 2. Curt. n. 23. fasc.

ii. Ger. 489. 8. Ger. em. 613. 7; copied by Park. 762. 4. (H.

ox. iii. 24. 21. bad. Seems more to refemble the V. verna.)

(Fl. dan. 515, a different fpecies? I have fince obferved with pleaſure that the accurate RETZIUS, in his prodr. flor. Scandinav. fubjoins a mark of doubt to his reference to this plate.)*

Cups longer than the fruit-ftalk. **Scop.**

Leaves hairy, marked with 3 longitudinal grooves; upper leaves fitting. Flowers about a month later than the *V. agrestis*. **Mr. DICKENSON.**

Cup with fpear-fhaped unequal fegments. **GOUAN.** *Blofs.* pale blue. *Speedwell—Chickweed.*

Old walls; amongft rubbifh; and fallow fields.

A. May.

Horfes eat it.

VERO-

VERONI'CA *hederifo'lia*. Flowers solitary. Leaves *ivy-leaved* heart-shaped, flat, divided into 5 lobes.—

Curt. n. 19. fasc. ii. Walc. Fl. dan. 428. Riv. 99. V. fol. hederæ. Dod. 31. 1. reprinted by Lob. obs. 247. 1. and Ger. em. 616. 3; copied by Park. 762. 3. J. B. iii. 368. 2. H. ox. iii. 24. 20. (Buxb. cent. i. 40. 1. should seem from the blos. to be a different species.)

Seeds with a dimple at the top; 2 in each cell of the capsule. LINN.

Leaves sometimes with 3 lobes. Cup with oblong, heart-shaped segments, longer than the blos. Blos. when fallen off, 4 cornered. Seeds yellowish, wrinkled, adhering to a 4 cornered receptacle: they ripen in 28 days. SCOP.

Root-leaves 2; opposite, oblong. MR. HOLLEFEAR.

Stem composed of a hollow cylinder, surrounding a strong, elastic, thread-shaped fibre, as in the *Alfine media* (see Pl. 13. f. 3.) One fruit-stalk arises from the bosom of each leaf. Middle segm. of the leaves far the broadest. Cup fringed at the edges with long taper white hairs. Blos. blue. Sown in a garden I have seen it half a yard high. WITH.

Small Henbit. Ivy Chickweed.

Hedge banks; ploughed fields.

A. April. May.

VERONI'CA *triphyl'los*. Flowers solitary. Leaves *trifid* with fingered divisions. Fruit-stalks longer than the cup.—

J. B. iii. 368. 1. Fl. dan. 627. habit well expressed. Riv. 96. V. fol. rutæ. (Ger. em. 612. 5. copied by Park. 1260. 6, and in H. ox. iii. 24. 23. very ill done, or a different plant, a conjecture justified by its fingered leaves, large blos. and flowers as it were in broad-topped spikes.)

Leaves shorter than the fruit-stalks; reddish underneath. SCOP.

Root-leaves heart-shaped, jagged. Blos. blue. Capsules large; deeply notched. MR. WOODWARD.

Right, or upright Chickweed.

Sandy fields. [Near Cock-ley Cley, Norfolk, and Bury, Suffolk, MR. WOODWARD.]

A. April. May.

Cows, Goats, and Sheep eat it.

VERONI'CA *ver'na*. Flowers solitary. Leaves with *vernal* fingered divisions. Fruit-stalks shorter than the cup.—

Rose. 2. 1. Fl. dan. 252. H. ox. iii. 24. 21?

Stem stiff, upright. LINN.

Cup much longer than the blos. and deeply divided into 4 spear-shaped, blunt, unequal segments. Blos. blue; green at the base. Tips white. Summit slightly fringed. Floral-leaves spearsh. blunt. Fruit-stalks very short. WITH.

Dry,

Dry, barren soil ; old walls and rocks. [Near Bury, in the most dry and driving sand : the plant is frequently nearly buried in it. Mr. WOODWARD.] A. April. May.

33. PINGUIC'ULA. Butterwort.

EMPAL. *Cup* gaping ; small ; sharp ; permanent. *Upper lip* upright ; with 3 clefts ; *lower lip* reflected ; cloven.

BLOSS. 1 petal, gaping. *Longer lip* straight, blunt ; with 3 clefts ; falling back : *shorter lip* cloven, somewhat blunt and expanding. *Honeycup* horn^d shaped, being a production of the lower and hinder part of the petal.

CHIVES. *Threads* 2 ; cylindrical ; crooked ; ascending ; shorter than the cup. *Tips* roundish.

POINT. *Seed-bud* globular. *Shaft* very short. *Summit* with 2 lips ; *upper lip* large ; flat ; reflected ; covering the tips ; *lower lip* short ; very narrow ; upright ; cloven.

S. VESS. *Capsule* egg-shaped ; of 1 cell ; compressed ; and opening, at the point.

SEEDS. Many ; cylindrical. *Receptacle* loose.

ESS. CHAR. *Bloss.* gaping ; ending in a spur. *Cup* with 2 lips and 5 clefts. *Caps.* 1 cell.

common

PINGUIC'ULA *vulgaris*. Honeycup cylindrical, the length of the petal.—

Fl. dan. 93. *Clus.* i. 310. 2. reprinted by *Ger. em.* 788. 2. *Ger.*

644. *J. B.* iii. 546. 1. *Park.* 532. 2. *H. ox.* v. 7. 13.

Leaves covered with soft upright prickles, secreting a glutinous liquor. *Bloss.* violet, purple and reddish, with white lips, and an ash-coloured woolly spot on the palate. LINN.

Butterwort. Yorkshire Sanicle.

On Bogs. [Broadmoor, about 3 miles S. West of Birmingham. Mr. BRUNTON. On the N. W. side of Malvern hills, but not on the S. or S. E. side. Mr. BALLARD.] P. May.

If the fresh gathered leaves are put into the filtre or strainer through which warm milk from the Rein Deer is poured, and the milk is set by for a day or two to become acceſcent, it acquires consistence and tenacity ; the whey does not separate, nor does the cream ; in this state it is an extremely grateful food, and as such is used by the inhabitants in the North of Sweden. There is no further occasion to have recourse to the leaves, for half a spoonful of this

this prepared milk, mixed with fresh warm milk, will convert it to its own nature ; and this again will change another quantity of fresh milk, and so on without end. (This did not succeed when tried with Cows milk. Mr. HAWKES.) The juice of the leaves kills lice ; the common people use it to cure cracks or chops in Cows elders. LINN.—The plant is generally supposed injurious to Sheep : occasioning a disease which the farmers call the Rot. But it may be made a question, whether the Rot in Sheep is so much owing to the vegetables in marshy grounds, as to a flat insect called a Fluke (*Fasciola hepatica*) which is found in these wet situations adhering to the stones and plants, and likewise in the livers and biliary ducts of Sheep that are affected with the Rot.—From experiments made on purpose, and conducted with accuracy, it appears, that neither Sheep, Cows, Horses, Goats, nor Swine, will feed upon this plant.

PINGUIC'ULA *villosa*. Stalk with a slight wool- hairy
linefs.—

Lightf. 6. 1.—Fl. lapp. 12. 2.

Stalk very slender ; not very evidently pubescent. Blofs. violet-coloured ; Spur standing out. In all its dimensions 6 times smaller than the *P. vulgare*. LINN.

Leaves tender and delicate ; the edges approaching. Veins purplish. HUDS.

Honeycup shorter than the petal ; nearly cylindrical, blunt. LIGHTFOOT.

Leaves roundish. S. Veff. heart-shaped ; of 2 valves.

Marshes in Dorsetsh. Hampsh. Devonsh. and Cornwall, frequent. HUDS.

Near Air, and in the island of Lamfash, Scotland. Dr. HOPE. P. June. July.

PINGUIC'ULA *alpi'na*? Honeycup conical. Shaft mountain
shorter than the petal.—

Fl. dan. 453.—Gunn. ii. 4. 4.—Fl. lapp. 12. 3, from a dried specimen.

Blofs. white ; woolly spot on the palate yellow. Spur converging, blunt. Threads bowed inwards at the base, touching near the seed-oud. Tips flattened, yellowish. Caps. 2 edged at the point, pubescent ; hairs knobbed. Seeds to 180 ; oblong, brown, scored at the point ; fixed to a roundish, stalked receptacle. SCOP.

Said to have been found in Orkney, and between Erwin and Air, but suspected to have been the *P. villosa*. LIGHTF. P.

34. UTRICULA'RIA. Bladder-fnout. (*Petiv.*)

EMPAL. *Cup* 2 leaves ; leaves very small, egg-shaped, concave, deciduous.

BLOSS. 1 petal, gaping. *Upper lip* flat, blunt, upright. *Lower lip* large ; flat ; entire. A heart-shaped *palate* standing prominent betwixt the lips. *Honeycup*, like a little horn, grows from the base of the petal.

CHIVES. *Threads* 2 ; very short ; bent inwards. *Tips* small and adhering together.

POINT. *Seed-bud* globular. *Shaft* thread-shaped ; as long as the cup. *Summit* conical.

S. VESS. *Capsule* large ; globular ; of 1 cell.

SEEDS. Many.

ESS. CHAR. *Blofs.* gaping, ending in a spur. *Cup* 2 leaves, equal. *Caps.* 1 cell.

OBS. The plants of this genus are very remarkable ; the roots being loaded with small membranaceous bladders.

greater

UTRICULA'RIA *vulga'ris*. *Honeycup* conical. Stalk bearing but few flowers.—

Fl. dan. 138.—*Riv.* 79, cop. by *Petiv.* 36. 11.—*Ger. em.* 828. 5. cop. by *J. B.* iii. 783. 3. and by *Park.* 1258, 9, with an additional fig.—*Parts of fructification*, *Schmied.* 21. 12, at the bottom.

Cup permanent ; its lower leaf very slightly notched at the end. *Blofs.* full yellow ; with purplish red streaks. *Honeycup* conical, blunt, lined with minute, shining, globular glands. *Threads* thick, fleshy, crooked ; fixed to the base of the seed-bud. *Summit* 2 lips ; one very small ; the other broad, flat, thin, fringed at the edge. After the impregnation of the Seed-bud this larger lip closes the aperture of the Shaft. *Stalk* cylindrical, scaly towards the top, and dividing into three. *Leaves* in whorls ; thread-shaped, greatly branched and forked ; set with minute whitish harmless thorns, and hollow bags, which have a glandular appearance ; they contain a transparent watery fluid, and a small bubble of air. They are pear-shaped but rather compressed ; with an open border at the small end, from the edges of which arise 3 or 4 very slender fibres, which perhaps are the real roots of the plant. See *Pl.* 13. fig. 4. (a) a small branch with its thorns. (b) the open border with the roots. (c) the cavity of the bag, filled with a bubble of air and a watery fluid. This fluid, when greatly magnified, appears to contain a quantity of extremely minute solid particles. WITH.

Hooded

Hooded Water-milfoile.

Wet ditches and stagnant waters. [In shallow water on Birmingham Heath. W.] P. July.

UTRICULA'RIA *mi'nor*. Honeycup keeled.— *lesser*

Schmied. 21.—Fl. dan. 128.—Pluk. 99. 6, cop. by Pet. 36. 12.

Honeycup obsolete; pointing downwards. *Mouth of the blos.* open, gaping; without a prominent palate. *Roots* hair-like, very slender, swimming; beset with small membranaceous bladders. *Stalk* as long as one's finger, simple, very slender; dividing towards the top into 3 fruit-stalks with 3 floral leaves. *Root-leaves* winged, hair-like; little leaves few; equal. *Cup* with the lower leaf reflected. *Blos.* 2 petals, gaping. *Upper lip* horizontal, heart-shaped, perforated at the base, fixed to the receptacle. *Lower lip* larger, heart-shaped, reflected at the sides; bellied at the base on the under side, prominent and keel-shaped. *Seed-bud* egg-shaped. *Shaft* simple, short. *Summit* betwixt egg and tongue shaped. *Blos.* a paler yellow than the preceding species. LINN.

Ditches and muddy ponds. [St. Faith's Bogs near Norwich. Mr. PITCHFORD.] P. June. July.

36, LYC'OPUS. Gypsie-wort.

EMPAL. *Cup* 1 tubular leaf, with 5 shallow clefts; *segments* narrow and sharp.

BLOSS. 1 unequal petal. *Tube* cylindrical, as long as the cup. *Border* with 4 clefts; blunt, open; *segments* nearly equal, but the *lowermost* somewhat smaller; the *uppermost* somewhat broader than the others, and notched at the end.

CHIVES. *Threads* 2; distant; generally longer than the blossom, and bending under its upper segment. *Tips* small.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; straight; as long as the chives. *Summit* cloven; reflected.

S. VESS. None.

SEEDS. 4: roundish; at the bottom of the cup.

ESS. CH. *Blos.* with 4 clefts; one segment notched at the end. *Chives* distant. *Seeds* 4, rounded.

Horehound

LYC'OPUS *europæus*. Leaves indented and serrated. —

Curt. n. 34. *fasc.* iii.—*Riv.* 22. *Pseudo-marrub. pal.*—*Math.* 1002.—*Dod.* 595. 2; *repr. by Lob. obs.* 283. 2. and *Ger. em.* 700. 1, and *cop. by Park.* 1230. 1.—*Pet.* 32. 5.—*H. ox.* xi. 9. 20.—*Trag.* 9. 2.—*J. B.* iii. 318. 2.

Cup with 4 or 5 clefts; segments unequal, with 3 scores on the inside, and a rib upon the back, which shoots out into a taper sharp point. *Bloss.* whitish, with a tinge of purple; somewhat hairy within. *Tube* shorter than the cup: upper segment slightly notched at the end; lower one with a few purplish spots on the inside. *Chives*, threads crooked. Betwixt these 2 chives it is not uncommon to find 2 other *shorter threads* without tips; and I once found these shorter threads furnished with tips. *Seed-bud* sitting upon a yellow glandular receptacle. *Shaft* crooked. *Stem* with 4 corners and 4 hollow sides; a little hairy. *Branches* opposite, rising from the bosom of the leaves. *Leaves* a little hairy. *Flowers* several together in the bosoms of the upper leaves. WITH.

jagged

VAR. 2. *diffectus*. Leaves deeply divided.

Barr. 154.—*H. ox.* xi. 9. 21.—*Pluk.* 45. 1.

Water Horehound.

Sandy ground on the banks of streams and ponds. P. July. Sept.

It dyes black. The juice gives a permanent colour to linen, wool, and silk, which will not wash out; travelling gypsies stain their faces with it.—Sheep and Goats eat it. Cows and Horses refuse it.—The *Cassida viridis* feeds upon it.

42. SAL'VIA. Sage.

EMPAL. *Cup* 1 leaf, tubular, scored; enlarging gradually upwards and compressed at the top. *Rim* upright; with 2 lips; *lower lip* with 2 teeth.

BLOSS. A single petal. *Tube* compressed, enlarging gradually upwards. *Border* gaping; *upper lip* concave, compressed; bowed inwards; notched at the end. *Lower lip* broad, with 3 clefts; the *middle segment* largest; roundish, notched at the end.

CHIVES. *Threads* 2; very short, supporting 2 others cross-wise by the middle, which have *glands* at one end, and *tips* at the other.

POINT. *Seed-bud* with 4 clefts. *Shaft* thread-shaped; very long; adjoining the chives. *Summit* cloven.

S. VESS. None; the *cup* closing a little, contains the seeds in its bottom.

SEEDS. 4; roundish.

Ess. CH. *Bloss* unequal. *Threads* fixed transversely to a little footstalk.

Obs. The rudiments of two chives appear in the mouth of the blossom, but they have no tips. The glands in most species are scallous, but in a few they appear like tips, and sometimes contain a small quantity of dust.

SAL'VIA *pratensis*. Leaves oblong heart-shaped, meadow scolloped; upper leaves embracing the stem. Flowers in whorls with hardly any intermixture of leaves. Helmet of the blossom gummy.—

Fuch. 569; *cop.* by *Trag.* 53, and more exactly by *Dod.* 293. 1; *repr.* by *Ger. em.* 769. 3.—*Riv.* 36.—*Ger.* 627. 3.—*H. ox.* xi. 13. 10.—*Clus.* ii. 30. 1. *repr.* by *Ger. em.* 771. 4, and *cop.* by *J. B.* iii. 312. 2. (*Lob. obs.* 300. 2. and *J. B.* iii. 311. 2. referred to in the German synonyms, are a reimpression and copy of *Clus.* ii. 30. 2. which is a different plant.) *Blackw.* 258, is *S. verbenaca*.

Flowers 6 in a whorl. *Cups* expanding horizontally; upper lip with 3 plaits uniting at the point; the lower with 8 elevated lines. *Bloss.* helmet-folded, blunt, hook-shaped. *Tube* filled with a sweet liquor, of which bees are very fond. *Glands* marked with 2 teeth tapering downwards, bowed inwards, adhering; closing the throat of the bloss. SCOP.

DIANDRIA MONOGYNIA.

Cup, upper lip inversely heart-shaped. *Bloss.* bluish purple, 4 times as large as the cup. *Tips* deep purple. *Dust* yellow. *Stem*, *leaves*, and *fruit-stalks* hairy; the hairs upon the latter supporting transparent globules. *Leaves* wrinkled. WITH.

[Surry and Suffex, common. ST.—Castle-hill, Tamworth, W.]
P. July.

Sheep and Goats eat it. Cows and Horses refuse it.

wild

SAL'VIA *verbena'ca*. Leaves indented, ferrated, smoothish. Blossoms more slender than the cup.—

Clus. ii. 31. 1; repr. by Ger. em. 771. 1, and cop. by Park. 57. 8.—

Black. 258.—Barr. 208.—H. ox. xi. 14. 33.—Ger. 628, is a fig. of some other species.

Cup, its upper lip with 3 very short teeth. *Bloss.* blue; its outside sprinkled with white globules. *Summit* a fine deep purplish blue. *Stem* 4 cornered; hairy. *Flowers* 6 in a whorl; the upper whorls almost contiguous; the lower ones more and more distant. WITH.

Wild Clary.

Meadows and pastures. [Plentiful about Kinfare, Staffordshire. Mr. BRUNTON.]
P. June.

25. C I R C Æ' A. Enchanters-wort.

EMPAL. *Cup* 2 egg-shaped, concave leaves; a little bent outwards; deciduous.

BLOSS. *Petals* 2; inversely heart-shaped; expanding; equal; shorter than the cup.

CHIVES. *Threads* 2; hairlike; upright; as long as the cup. *Tips* roundish.

POINT. *Seed-bud* turban-shaped: beneath. *Shaft* thread-shaped, as long as the chives. *Summit* blunt; notched at the end.

S. VESS. *Capsule* betwixt egg and turban-shaped; covered with strong hairs; with 2 cells, and 2 valves; opening from the base upwards.

SEEDS. Solitary; oblong, narrow towards the base.

Ess. CH. *Bloss.* 2 petals. *Cup* 2 leaves, superior. *Seed* 1; cells 2.

Obs. In most plants the seeds are produced within the empalement or blossom; but this genus is an exception, the seed-bud being beneath them.—The number 2 prevails here very remarkably; 2 leaves to the empalement, 2 petals, 2 chives, 2 cells and 2 valves to the seed vessel, and sometimes 2 seeds. ST.

CIR-

CIRCÆ'A *lutetia'na*. Stems upright, supporting several bunches of flowers. Leaves egg-shaped.—

Ger. 280.—*Fl. dan.* 210. confirmed by OED. HALL. LIGHTF. and HUDS. the reference in *Syst. Veget.* being probably an error of inadvertency.—*Lob. obs.* 137. 1; repr. by *Ger. em.* 351. 1; and cop. by *Park.* 351. 1.—*J. B.* ii. 977. 1; with a single flower at the bottom.—*Is Curt. n.* 37. fasc. iii. stem and leaves smooth, *H. ox.* v. 34. row 3. 1. leaves smooth and glossy, and perhaps *Fl. dan.* 256, a smooth var. or the alpina?

Stem a foot and half high; upright. Leaves somewhat serrated, dull. Bunches terminating and lateral. *Empal.* much thicker and of a coarser texture than the blossom, and not of the same colour. LINN.

Stem woolly. Leaves elliptical, slightly hairy. Chives longer than the cup. Fruit-stalks, when the fruit is ripe, bent downwards. Hairs of the fruit hooked. SCOP.

Root toothed. Stem upright, a cubit high; branching. Leaves nearly heart-shaped, but without the hollow at the base: on long leaf-stalks; the edges sometimes entire, sometimes undulated, sometimes serrated and fringed; but mostly serrated. Fruit-stalks rather long; somewhat hairy, expanding, and on the ripening of the seed, bent back. Bloss. white, or flesh-coloured. *Empal.* greenish red, in texture unlike the blossom. HALL.

Bunch mostly solitary. *Emp.* green; red at the points. RETZ. obs. i. p. 9.

Stems somewhat creeping, green. The plant corresponds with Scopoli's character. MR. WOOD.

Whole plant pubescent. Leaves heart-egg-shaped, taper pointed, betwixt toothed and serrated, the points being directed towards the end of the leaf, but the margin between the points hollowed out. *Empal.* when magnified, beset with short cylindrical hairs, ending in heads, just sensibly thicker than the body of the hair. ST.

Leaves a little woolly. Cup with its leaves reflected, betwixt egg and spear-shaped; coloured. Petals reddish white, alternating with the leaves of the cup. Threads thickest towards the top; white. Tips white. Dust 3 cornered. Seed-bud hairy, egg-shaped but compressed; placed under, and at a small distance from, the cup. Shaft thickest upwards, with a double green gland at its base. Summit a fine pink colour. Caps. set with white hairs, hooked at the end. Seeds 2. Stems and branches cylindrical; a little woolly; sometimes red at the joints. Leaves on leaf-stalks, opposite; betwixt egg and spear-shaped; a little woolly, and glandular at the edges. Little fruit-stalks after flowering, pointing downwards. WITH. *Inchanters Nightshade.*

Woods and moist hedge bottoms, common.

P. July. Aug.

It is eaten by sheep,

mountain

CIRCÆA alpina. Stem prostrate, supporting a single bunch of flowers. Leaves heart-shaped.—

Curt. n. 34. fasc. iii.—*H. ox. v. 34. row 3. 2. a very luxuriant specimen.*—*Fl. dan. 256, confirmed by OED. HALL. LIGHTF. and HUDS. the reference in Murray's edit. of Syst. Veget. to 210, being a mistake.*

Stem prostrate, scarcely a finger's length. Leaves heart-shaped, toothed, shining. Different from the *C. lutetiana*, but nearly allied to it. LINN.

These species certainly distinct—SCOP. and MR. WOODWARD; but the specific distinctions do not depend on the direction of the stems, the number of the branches, or the colour of the empalement, but in the figure, &c. of the Leaves, which are heart-shaped, toothed, smooth. Stem ascending. SCOP.

Of a delicate texture. Stem upright, from 3 to 6 inches high; smooth. Leaves smooth; deeply cut at the edges, and more distinctly heart-shaped. Leaf-stalks smooth. Empal. red. Bunches rather more numerous than in the *C. lutetiana*. Cultivated in a garden it does not become the *C. lutetiana*, neither is it a variety of that. HALL.

Empal. smooth. Leaves deeply cut, or ferrated. LIGHTF.

Bunch. often only 1, sometimes 2, or 3. Leaves of a yellower green. Sometimes six inches high. Corresponds with Scopoli's character, and does not materially differ from Mr. Curtis's *C. lutetiana*. If not the *C. alpina* it is at least a striking variety of the *C. lutetiana*. Found about Leeds. MR. WOOD.

Two specimens from botanic gardens, and the same with Mr. Wood's, exactly accord with the above descriptions, except that they are 10 inches high. Empal. smooth. Stems smooth; joints red. Leaves heart-shaped. Bunches from 1 to 5. Empal. white; its points green. RETZ. obs. i. p. 9. Emp. very red. REYGER. ib.

Inchanters Nightshade.

[Rocky Woods in Lancashire, Westmorland, and Cumberland. MR. WOODWARD.] P. July.

Sheep eat it.

Order II.

D I G Y N I A. II. P O I N T A L S.

46. ANTHOXAN'THUM. Vernalgrafs. (Ray.)

Pl. II. fig. 1.

EMPAL. *Husk*, 2 valves containing 1 flower. *Valves* concave, egg-shaped, taper; the innermost the largest.

BLOSS. *Husk* 2 valves, the length of the larger valve of the empalement. Each valve sends out an awn from its back, at the lower part; and one of the awns is jointed. *Honeycup* 2 leaves, very slender, cylindrical. The leaves nearly egg-shaped, and one enfolding the other.

CHIVES. *Threads* 2; hair-like; very long. *Tips* oblong; forked at each end.

POINT. *Seed-bud* oblong. *Shafts* 2; thread-shaped. *Summits* simple.

5. VESS. The *Husk* of the blossom grows to the feed.

SEED. Single, cylindrical, tapering at each end.

ESS. CH. *Empal. husk* of 2 valves, containing 1 flower. *Bloss. husk* 2 valves; pointed. *Seed* 1.

ANTHOXAN'THUM *odora'tum*. Spike oblong *sweet-scented* egg-shaped. Florets longer than the awns, supported on short fruit-stalks.

Curt. n. 9. fasc. i.—*Schreb. 5.*—*Giseke. 2.*—*Fl. dan. 666.*—*Stilling. f. 1. out of blos.* *Mus. rust. iv. 2. 3.*—*J. B. ii. 466. 1.*—*Anders. Barr. 124, single spike good.*—*C. B. 44. 1.*—*H. ox. viii. 4. row 2. 25. and 7. row 3. 25. both bad.*—*Spike, and parts of fructification, Leers 2. 1.*—*Seguier. i. 4. 2.*—*Mont. 84.*

Spike-like panicle. *Empal.* longer than the blos. *Petals* unequal, blunt, with a slight woolliness. *Awn* of one petal shorter, upright, proceeding from the middle of the petal; that of the other longer, hooked, proceeding from the base. *Tips* reddish, cloven at each end; cleft straddling. *Seed-bud* tapering. *Shafts* twice as long as the chives. **Scop.**

Empal. The outer valve skinny, and sheathing the base of the inner, which is much stronger. *Threads* short, at the first opening of the blossom, afterwards very long. *Summits* woolly.

woolly. It is remarkable, that before the expansion of the blofs. the *Seed-bud* and one end of the *Tips* are inclofed in the *Honeycup*. *Straw* cylindrical, fmooth ; when magnified it appears fcored with green lines. *Leaves* fcored ; fheathing the *straw* ; 2 or 3 upon each flowering ftem. *Straw* with fhining joints. WITH.

Empal. *Valves* fpinkled over with minute yellow dots, fimilar to thofe of the *Ribes nigrum*, whence poffibly its fweet feent ; fometimes fcattered over with foft white hairs. *Blofs.* double. *The outer* entirely different from that of any other of the *Graffes*, fhorter than the leffer valve of the empalement, its outside covered to near the top with ftiff brown hairs lying flat ; *valves* ftrap-shaped, cloven at the end, keeled, upright, ftanding feparate, *that with the twifted awn* narrowing downwards, and juft fenfibly fhorter ; *awns* upright, *the longer* where even with the top of the bloffom bent afide, below the flexure twifted, dark brown, above whitifh, tapering ; *the fhorter* as long as the empalement, inferted above the middle of the valve, ftraight, brownifh, tapering. *The inner* (*Nectarium*, LINN.) refembling the bloffom of a *Poa*, fmooth ; *outer valve*, oblong-roundifh, yellowifh brown, membranaceous at the edge ; *inner valve* membranaceous, as narrow again.—Haller makes it one of his 2-flowered *Avenas*, but it is a genus truly diftinct from all others. It has the awn of the *Avena*, the blofs. of the *Poa*, and the double one of the *Phalaris*. In a natural arrangement it fhould ftand between the *Poa* and *Avena*. SR.

Spring grafs.

Meadows and pastures, common.

P. May. June.

This is one of the earlieft of our *graffes*, and is faid by Linnæus to occasion the delightful fmell of new-mown hay. Mr. Curtis fays that the leaves, rubbed betwixt the fingers, impart a grateful odour. Boccone fays a diftilled water is prepared from it, as the vehicle of fome perfumes. If it be gathered whilft in bloffom, lapped in a paper and carried in the pocket, it retains the fmell of new-mown hay for a long time. W.

Cows, Goats, Sheep, and Horfes eat it.

Class III.

TRIANDRIA;

III. CHIVES.

THIS Class comprehends, besides other plants, the greater part of those vegetables commonly called GRASSES, and some others nearly allied to them. Although the flowers in these are generally disregarded, they will not, to an attentive observer, appear less curiously constructed, than those which boast of gayer colours and more conspicuous parts.

NATURAL CHARACTER OF GRASSES.

EMPAL. A husk; generally composed of 2 valves: the larger valve hollow; the smaller flat.

BLOSS. Strictly speaking, none: but, instead thereof, a *Husk* of 2 valves, dry and skinny. *Honeycup* of 2 leaves; oblong; very small; superior.

CHIVES. *Threads* 3; hair-like. *Tips* oblong; with 2 cells.

POINT. *Shafts* 2; downy; reflected. *Summits* downy.

S. VESS. None.

SEED. Single; inclosed either by the blossom or the empalement; oblong; tapering at each end.

STEM. Simple, straight, hollow; with knots or joints: it is commonly called a *Straw*.

LEAVES. Entire; narrow; tapering to a point: 1 placed at each joint of the straw.

MARTYN *Cat. Cant.* p. 11.

Besides the plants which fall under this class, there are others of the grass kind that differ in some of their characters, and are arranged accordingly. Thus, the ANTHOXANTHUM, or Vernalgrass, has only two chives, and the HOLCUS, or Softgrass, has its chives and pointals variously disposed upon the same plant; (*See the figures in the plate of Grasses, copied from the Amœnitates Academic.* LINN.)

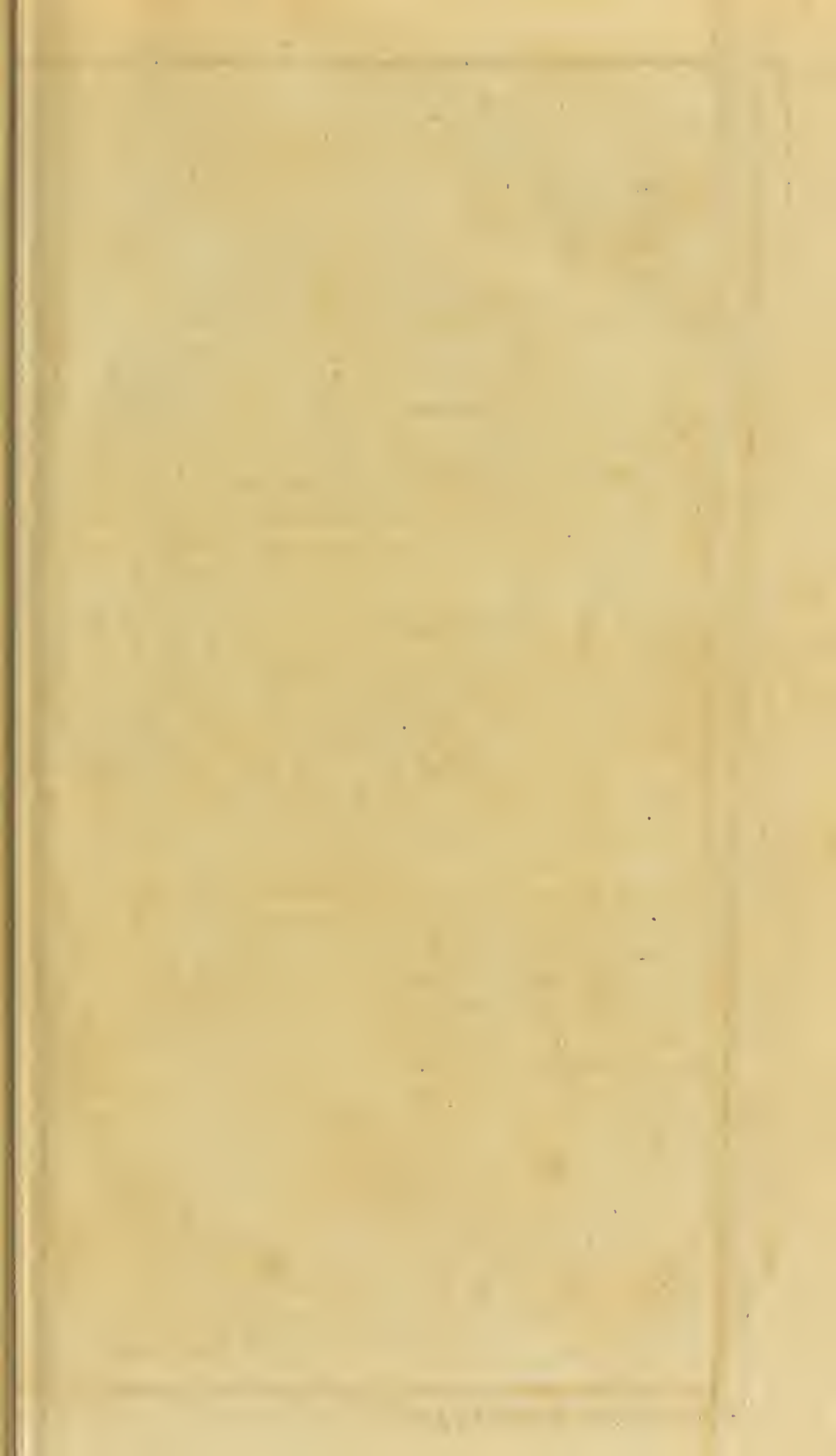
The great solicitude of nature for the preservation of grasses is evident from this; that the more the leaves are

are consumed, the more the roots increase. The great author of nature designed, that the delightful verdure of these plants should cover the surface of the earth, and that they should afford nourishment to an almost infinite number of animals. But what increases our admiration most, is, that although the GRASSES constitute the principal food of herbivorous animals, yet, whilst they are left at liberty in the pasture, they leave untouched the straws which support the flowers; that the seeds may ripen and sow themselves. Add to this, that many of the seemingly dry and dead leaves of Grasses revive, and renew their verdure in the spring. And on lofty mountains, where the summer heats are hardly sufficient to ripen the seeds, the most common Grasses are. the *FESTUCA ovina* (Sheep's Fescue;) the *POA alpina* (Mountain Meadowgrass;) and the *AIRA caespitosa* (Turfy Hairgrass;) all which are viviparous, and consequently propagate themselves without seeds.

In general, the leaves furnish pasturage for cattle; the smaller seeds are food for birds, and the larger for men. But some are preferred to others; as, the *FESTUCA* (Fescue) for Sheep; the *POA* (Meadowgrass) for Cows; the *PHALARIS* (Canary) for Canary-birds and Linnets; the *AVENA* (Oat) for Horses; the *SECALE* (Rye) *HORDEUM* (Barley) and *TRITICUM* (Wheat) for Man.

Variety of INSECTS too derive their nourishment from grasses; as the *Papilio mara*, *Pap. Aegeria*, *Pap. Galathea*, *Pap. Furtina*, *Pap. Cinxia*, *Phalana quercifolia*, *Ph. Potatoria*, *Ph. culmella*, *Chrysomela Graminis*, and several others which will be mentioned under the different species.

No part of Botany appeared to me more difficult than the study of GRASSES; but the method of accurate dissection and observation once adopted, nothing was more certain or more easy. However, when the great importance of the subject is considered, we cannot labour too much to fix the public attention to it, by rendering it as easy as possible: for which reason the exceptions are carefully noted under each subdivision of the orders, and in the following plate an example is selected from each genus. To gain a clear idea of the structure of the flowers, they must be examined just before the *Tips* discharge their dust; and by comparing them in that state with the figures in the plate, and with the generic description,



GRASSES

to front page 29



scription, every difficulty will soon be surmounted. The Botanic Microscope will be found extremely useful in dissecting the minuter parts.

EXPLANATION OF THE PLATE.

Fig. 1. ANTHOXAN'THUM (*Vernalgrafs.*) *a a* husks of the empalement. *b* the awn of the inner valve of the blossom, twisted and jointed. *c* the straight awn of the outer valve of the blossom. *d d* the two tips. *e e* the two shafts.

Fig. 2. SCHÆ'NUS (*Rushgrafs.*) The six petals, the three chives, and tips; the seed-bud, the shaft, and the summit cloven into three parts.

Fig. 3. CYPE'RUS (*Galingale.*) *a* the tiled spike pointing from two opposite lines. *b* the scale of the empalement. *c c c* the tips. *d* the shaft. *e e e* the fummits.

Fig. 4. SCIR'PUS. (*Clubgrafs.*) *b* the tiled spike. *a* the scale of the empalement. *c c c* the chives and tips. *d* the seed-bud, a little woolly.

Fig. 5. ERIOPH'ORUM (*Cottongrafs.*) *a* the woolly tiled spike. *b* the scale of the empalement including the hairy feed-bud, the chives, and the pointal.

Fig. 6. NAR'DUS (*Matgrafs.*) *A* the spike pointing one way. *c c c* the blossoms. *B* one of the flowers a little magnified. *a* the lower and larger valve which embraces the smaller valve *b*, which is here drawn out of its natural situation. *c c c* the tips.

Fig. 7. PAN'ICUM (*Panic.*) *b b* the two equal valves of the empalement. *a* the third smaller and outer valve. *c c* the valves of the blossoms. *d d d* the tips. *e e* the downy fummits of the shafts.

Fig. 8. ALOPECU'RUS (*Foxtail.*) *a a* the valves of the empalement. *b* the single valve of the blossom, with the awn *c* proceeding from its base. *d d d* the tips.

Fig. 9. PHLE'UM (*Timothygrafs.*) *a a* the husks of the empalement opened and magnified to shew the blossom. *b* the floret in its natural state to shew the two points at the top of it. *c c c* the tips.

Fig. 10. PHALA'RIS (*Canary.*) *a a* the keeled husks of the empalement. *b b* the husks of the blossom. *c c* the tips.

Fig. 11. MIL'IUM (*Millet.*) *a a* the husks of the empalement. *b b b* the tips. *c c* pencil-shaped fummits.

Fig. 12.

- Fig. 12. AGRO'STIS (*Bent.*) *a a* the two pointed valves of the empalement. *b b* the two valves of the blossom. *c c c* the tips.
- Fig. 13. DAC'TYLIS (*Cocksfoot.*) *a* the outer and larger valve of the empalement. *b* the shorter valve. *c* the keel-shaped valve of the blossom. *e e e* the tips. *d* the panicle pointing one way.
- Fig. 14. STI'PA (*Feathergrafs.*) *a a* the valves of the empalement. *b* the outer valve of the blossom, with the awn jointed at the base and twisted. *c* the inner valve of the blossom. *d d* the feathered awn. *e e* the hairy shafts and summits. *fff* the tips.
- Fig. 15. AI'RA (*Hairgrafs.*) *a a* the empalement. *b b* the blossoms, without the rudiment of a third betwixt them.
- Fig. 16. MEL'ICA (*Melic.*) *a a* the empalement. *b b* the fertile blossoms with *e* the rudiment of a third blossom betwixt them.
- Fig. 17. BRI'ZA (*Quakegrafs.*) *a a* the valves of the empalement. *b b b b b* the blossoms, of which the outer valves only are visible. *B* one of the blossoms taken out of the little spike. *c c* the outer heart-shaped valve of the blossom. *d d* the inner valve inversely egg-shaped.
- Fig. 18. PO'A (*Meadowgrafs.*) *A* an entire little spike. *a a* the two husks of the empalement. *b b b b b* the blossoms. *B* one of the florets separated from the little spike. *c* the outer valve, *d* the inner valve of the blossom. *e e e* the forked tips. *ff* the woolly summits.
- Fig. 19. FESTU'CA (*Fescue.*) *a a* the valves of the empalement. *b b b b b b b* the blossoms of the little spike terminating in sharp points. *c* the inner valve of one of the blossoms.
- Fig. 20. BRO'MUS (*Bromegrafs.*) *a a* the empalement. *b b b* the blossoms, the outward valves only of which are visible, with the awns growing from beneath the point.
- Fig. 21. AVE'NA (*Oat.*) *a a* the valves of the empalement. *b b b* the florets, the outer valves of which are furnished with a twisted jointed awn, growing from the back. *d d d* the inner valves. *c c c c c c* the tips.
- Fig. 22. ARUN'DO (*Reed.*) *a a* the valves of the empalement. *b b b* the woolly blossoms.
- Fig. 23. SECA'LE (*Rye.*) *a a* the valves of the empalement. *b b b b* the blossoms; the inner valve of which is flat, but the outer concave and furnished with an awn. *c c* the spike-stalk with its little teeth.

Fig. 24. TRIT'ICUM (*Wheat.*) *a a* the blunt valves of the empalement, embracing the three bloffoms *b b b*, the outer valve only of which is seen, furnished with an awn. *c c* the spike-stalk.

Fig. 25. HOR'DEUM (*Barley.*) *a a a a a* the six valves of the empalement, two of which belong to each of the bloffoms *b b b*. *e e e* the long awns of the outer valves of the bloffoms. *e e* the naked spike-stalk as it appears after the florets are pulled off.

Fig. 26. EL'YMUS (*Lymegrass.*) *a a a a a* the valves of the empalement, two of which belong to each little spike *b b b*. *e e* the empalement as it appears after the little spikes are taken away.

Fig. 27. LOL'IUM (*Darnel.*) *a a a* the empalements of one valve. *b b b* the little spikes consisting of several florets. *c* one of the florets opened to shew the two valves of the bloffom.

Fig. 28. CYNOSU'RUS (*Dogstail.*) *A* the spike pointing all one way, composed of the florets *B*, in which *a* represents the fence with many clefts; *b b* the valves of the empalement containing several florets, and *c c* the florets.

Fig. 29. CA'REX (*Segg.*) *a* the tiled cat-kin. *c* the scaly empalement of the fertile floret. *d* the honeycup cloven at the top. *b* the seed-bud, and *g* the shafts taken out of the honeycup: *h h h* the summits. *e* the scaly empalement of the barren floret, with the three chives *fff*.

Fig. 30. HOL'CUS (*Sofigrass.*) *a a* the barren florets on short fruit-stalks. *b* the fertile floret, furnished with chives and pointals.

Fig. 31. ROTTBOL'LIA (*Hardgrass.*) *a a a a a* joints of the spike-stalk. *bc bc bc bc* valves of the empalement placed outwards, the edges of one lapping over that of the other. ST.

T R I A N D R I A.

III. C H I V E S.

Order I.

MONOGYNIA; I. POINTAL.

48. VALERIA'NA. - *Blofs.* with 5 clefts, bellying at the base. *Seed* single.
61. CRO'CUS. - - *Blofs.* 1 petal, but so deeply divided as to appear like 6 nearly upright petals. *Summits* coloured; rolled in a spiral.
65. IRIS. - - *Blofs.* 1 petal; but so deeply divided as to appear like 6 alternate reflected petals. *Summits* like petals.

* Flowers with valves like GRASSES, and husky Empalements.

71. SCHœ'NUS. - *Blofs.* o. *Empal.* chaffy; in bundles. (*Scales* opposite but rising from the same point. ST.) *Seed* roundish.
72. CYPE'RUS. - - *Blofs.* o. *Empal.* chaffy; pointing from two opposite lines. *Seed* naked.
73. SCIR'PUS. - *Blofs.* o. *Empal.* chaffy; tiled. *Seed* naked.
74. ERIOPH'ORUM. *Blofs.* o. *Empal.* chaffy; tiled. *Seed* woolly.
75. NAR'DUS. - *Blofs.* 2 valves. *Empal.* o. *Seed* covered.

† *Carex sylvatica.*

Order

† *Daëylis cynosferoides*. Blofs. 2 valves. Empal. 2 valves. ST.

Order II.

DIGYNIA; II. POINTALS.

* Flowers scattered; 1 in each empalement.

82. PAN'ICUM. Empal. 3 valves; that upon the back the smallest.
84. ALOPECU'RUS. Empal. 2 valves. Blofs. 1 valve with a simple point; fitting.
83. PHLE'UM. Empal. of 2 valves; lopped; sharp; pointed; fitting.
80. PHAL'ARIS. Empal. 2 valves. Valves keeled; equal; inclosing the blossom.
85. MIL'IUM. Empal. 2 valves. Valves distended; larger than the blofs. nearly equal. (Valves much larger than the blofs. ST.)
86. AGRO'STIS. Empal. 2 valves, (sometimes only 1. ST.) Valves sharp; shorter than the blofs. (somewhat larger than the blofs. ST.)
92. DAG'TYLIS. Empal. 2 valves. The larger and longer valve compressed and keeled.
96. STI'PA. Empal. 2 valves. Blofs. terminated by an awn which is not jointed.
- † *Melica nutans*. *Arundo Epigejos*. *Arundo Calamagrostis*. *Arundo arenaria*.

** Flowers scattered; 2 in each empalement.

87. A'IRA. Empal. 2 valves. Florets without the rudiment of a third.
88. MEL'IGA. Empal. 2 valves. Florets with the rudiment of a third between them.
- † *Holcus*. *Avena elatior*. *Avena flavescens*. *Avena fatua*. *Cynofurus*. *Daëtylis glomerata*. *Sesleria*.

*** Flowers scattered; several in each empalement.

90. BRI'ZA. Empal. 2 valves. Blofs. heart-shaped; with distended valves.
39. PO'A. Empal. 2 valves. Blofs. egg-shaped; with valves somewhat sharp.
- (p. 83.) SESLE'RIA. Empal. 2 valves. Blofs. oblong; toothed at the end. Fence 2 leaves. ST.
94. FESTU'GA. Empal. 2 valves. Blofs. oblong; with sharp pointed valves.

95. BRO'MUS. *Empal.* 2 valves. *Bloss.* oblong; its valve with an awn rising from beneath the point.
97. AVE'NA. *Empal.* 2 valves. *Bloss.* oblong; with a twisted awn upon the back.
99. ARUN'DO. *Empal.* 2 valves. *Bloss.* woolly at the base, and without an awn.
- † Rottbollia. *Aira cærulea, aquatica. Dactylis glomerata.*

**** Flowers on a long toothed seat without fruit-stalks.

105. TRIT'ICUM. . *Empal.* containing many florets.
104. HOR'DEUM. .. *Fence* 6 leaves, containing 3 florets. *Flower* simple. LINN.— *Fence* 2 leaves. *Flowers* growing 3 together; simple. ST.
- (p. 122.) ROTTBOL'LIA. *Empal.* lateral, containing 1 blossom of 2 valves; solitary. ST. from *Sp. plant. and suppl.* 13.
102. E'LYMUS. *Fence* 4 leaves, containing 2 flowers. *Flower* compound. LINN.— *Fence* 2 leaves. *Flowers* 2 or 3 together; composed of from 2 to many florets. ST.
101. LO'LIIUM. *Fence* 1 leaf, containing 1 flower. *Flower* compound.
93. CYNOSU'RUS. . *Fence* 1 leaf, fixed to the side. *Flower* compound.

Order III.

TRIGYNIA; III. POINTALS.

107. MON'TIA. *Bloss.* 1 petal. *Empal.* 2 leaves. *Caps.* 3 valves. *Seeds* 3.
112. POLYCAR'PON. *Bloss.* 5 petals. *Cup* 5 leaves. *Caps.* 3 valves.
110. HOLOS'TEUM. *Bloss.* 5 petals. *Cup* 5 leaves. *Caps.* opening at the end.
189. TILLÆ'A. *Bloss.* 3 petals. *Cup* 3 leaves. *Caps.* 3. *Seeds* several.

† *Alfine media. Empetrum nigrum.*

48. VALERIA'NA. Valerian.

EMPAL. None ; or only a *Rim*, which is superior.

BLOSS. *Tube*, bellied on the under side, containing honey. *Border* with 5 clefts. *Segments* blunt.

CHIVES. 3, or fewer than 3 ; awl-shaped ; upright ; as long as the blossom. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shaft* thread-shaped ; as long as the chives. *Summit* thick.

VESS. A hard substance, not opening ; deciduous ; crowned.

SEEDS. Solitary ; oblong.

Ess. CH. *Bloss.* 1 *petal*, superior ; bellying at the base on one side. *Seed* 1.

OBS. There is a wonderful diversity in the parts of the flowers in different species of Valerian, as well in number as in figure.

VALERIA'NA *ru'bra*. Flowers with 1 chive, with red stamens. Leaves spear-shaped ; very entire.—

Riv. 3. 2.—*Dod.* 351. 1. repr. by *Lob. obs.* 184. 2 —*Ger. em.* 678. 1 ; cop. by *Park.* 123. 11 ; and by *Ger.* 550. 1.—*H. ox.* 7. 14. 15.—*J. B.* iii. 211. 2.

Red Valerian.

Blossoms red ; and in gardens there is a variety with white blossoms. *H. ox. ib.* p. 102.

On old walls and rubbish ; in Devonshire and Cornwall common. HUDS. P. May. Aug.

VALERIA'NA *dioi'ca*. Chives and pointals on small different plants. Leaves winged, very entire.—

Root-leaves egg-shaped. Stem-leaves winged. HUDS.

Plant with chives, but pointals imperfect.

Riv. 2. 3. *V. minor*.—*Fl. dan.* 687. 1.—*Walc.*—*Blackw.* 484 : —*Trag.* 62.—*Math.* 41.—*Ger.* 917 3.

Plant with pointals, but only rudiments of chives.

Riv. 2. 2. *flor. exig.*—*Fl. dan.* 687. 2.—*Clus.* ii. 55. 2 ; repr. by *Dod.* 350. 1.—*Lob. obs.* 411. 3.—*Ger. em.* 1075. 3, and cop. by *Park.* 123. 13, and *J. B.* iii. 211. 1.—*H. ox.* vii. 14. 5. —*Mer. umb.* 10. d. e.

Leafy shoots spring from the crown of the root ; the leaves oval egg-shaped. *Leaf-stalks* long, 3 cornered. *Leaves* on the stem either winged or with winged clefts. I have examined great numbers

bers of plants, but never yet found one that had the *Chives* and *Pointals* perfectly distinct; and they all produce perfect seeds. SCOP.

The diversities in the parts of fructification are considerable; in some flowers there are 3 *Chives* and a very short and minute *Pointal*; but in others the *Pointal* is entirely wanting. The *Tips* in these are red, and the *Bloss.* tinged with red, particularly on the outside. *Dust* yellow.

Flowers upon other roots have either no *Chives*, or else only rudiments of chives, and a pointal with the *Summit* cloven into 3 parts. *Bloss.* in these plants much smaller than the preceding, and only slightly tinged with red. *Stems* and *Leaves* in both kinds nearly alike, but in the fertile plants a tinge of red prevails in them. WITH.

It is sometimes much smaller.

Moist meadows, common.

P. May. June.

great

VALERIA'NA officina'lis. Chives 3 in each flower. Leaves all winged.—

Ludwig. est. 99.—Math. 40.—Chus. ii. 55. 1; repr. by Dod. 349.

2. Lob. obs. 411. 2. Ger. em. 1075. 2. and cop. by Park.

122.—Ger. 917. 2.—Col. phytob. 26.—H. ex. vii. 14. 2.—

Riv. 1.—Fl. dan. 570; branch and leaf good.—Fuch. 857; cop. by Trag. 61.

Upper *Floral-leaves* spear-shaped. *Leaves*, all of them, a little hairy or woolly at the base. WITH.

Great wild Valerian.

Hedges, woods, and marshes, common.

P. June.

narrow leaved

2. Leaves narrower.

Riv. 2. 1.—Garidel 96. at p. 520.

Dry heaths and high pastures.

It is the latter variety which is in so much repute as a medicine. The root has a strong, and not an agreeable smell; its taste is warm, bitterish, and subacid; it communicates its properties to wine, water, or spirit; but it is best in substance, and may be taken from half a dram to two drams for a dose. There is no doubt of its possessing antispasmodic virtues in an eminent degree. It is often prescribed with advantage in hysterical cases; and instances are not wanting where it appears to have removed some obstinate epilepsies. In habitual costiveness it is an excellent medicine, and frequently loosens the bowels when other stronger purgatives have been tried in vain.

Cows eat the leaves; Sheep are not fond of them. Cats are delighted with the roots.—Rats are said to be equally fond of them and that the Rat-catchers employ them to draw the Rats together. ST.

VALERIA'NA *locusta*. Chives 3 in each flower. Lettuce stem forked. Leaves strap-shaped.—

3 Leaves entire.

Dod. 647. 1; repr. by *Ger. em.* 310. 1.—*Ger.* 242; cop. by *J. B.* iii. 323. 2.

Bloss. bluish white. Leaves and Stems fringed at the edges with white hairs. WITH.

✓ Leaves pointed.

Fl. dan. 738. *H. ox.* vii. 16. 36.

✱ Leaves broad.

J. B. iii. 323. 2.

✱ Upper leaves ferrated.

Ger. 242.—*Lob. obs.* 412. 2; repr. by *Ger. em.* 310. 2; cop. by *Park.* 812. 3; *J. B.* iii. 324. 1, and *H. ox.* vii. 16. n. 36. f. 2.
—*Riv.* 6. 2. *Locusta minima*.

✱ Lower leaves jagged. RAY and LOBEL.

Lob. adv. 319. 1.

✱ Taller. Leaves entire. Seeds round, swollen. MORISON.

H. ox. vii. 16. 37.

Lamb's Lettuce. Corn Sallad.

Common in corn-fields. A. April. May. 7 June. July.

The young leaves in Spring and Autumn are eaten as sallad, are very little inferior to young Lettuce.

Cows, Sheep, and Lambs, eat it.—A Horse eat it. ST.

61. CRO'CUS. Saffron.

PAL. Sheath 1 leaf.

Bloss. Tube simple, long. Border with 6 divisions; upright. Segments equal; oblong egg-shaped.

CHIVES. Threads 3; awl-shaped, shorter than the blossom. Tips arrow-shaped.

POINT. Seed-bud beneath; roundish. Shaft thread-shaped; as long as the chives. Summits 3, rolled in a spiral; ferrated.

VESS. Capsule roundish; with 3 lobes, 3 cells, and 3 valves.

SEEDS. Several, round.

Ess. CH. Bloss. with 6 equal divisions. Summits rolled in spirals.

CRO'CUS *sativus*. Sheath 1 valve, rising from the common st. Tube of the blossom very long.—

officinalis. Leaves narrower, rolled in at the edges.

autumnal

Math. 69. 70.—*Mill.* 111.—*Trag.* 763.—*Fuchs.* 441, *cop. by*
J. B. ii. 637; *with the addition of a fig. of it just appearing above*
ground.—*Walc.*—*Sheldr.* (*Saffron.*)—*Tourn.* 184.—*Ger.* 123.
 i. 2.—*Dod.* 213; *repr. by Lob. obs.* 68.—*Ger.* 151.—*H. ox.*
 iv. 2. 1.—*Blackw.* 144. 1.—*Park. par.* 167.

Tips bright yellow. *Threads* purple. *Summis* deep orange at the
 ends. *Seed-bud* cylindrical. WITH.

Crocus officinalis sativus. HUDS.

About Cambridge, and Saffron-Walden, Essex. [About Hali-
 fax. *Rev. Mr. Wood.* In a meadow near the Copper-mills,
 Derby. *Mr. WHATELY.* P. Aug. Sept.

spring

β vernus. Leaves broader, with flat edges.

Ger. em. 153. 1.—*Clus.* i. 205. 2; *repr. by Ger. em.* 156. 12.
 —*Ger.* 125. 1.

OBS. This variety is inserted on the authority of Mr. Hudson,
 but it is to be regretted that he has not mentioned where he dis-
 covered it. Ray, from whom he has extracted the place of growth,
 takes no notice of it. ST.

Crocus officinalis sylvestris. HUDS.

The Summits of the Pointal of the *officinalis*, carefully collected,
 and moderately dried, are the Saffron of the shops. That collected
 in England is preferred to all other. It affords a beautiful colour
 to water, wine, or spirit, and gives out the whole of its virtues to
 them. It hath been holden in high repute as a cordial; but modern
 practice pays no great attention to it, since it has been found to
 produce no sensible effect, even when given in doses greatly larger
 than those generally prescribed.

65. I'R I S. Flag.

EMPAL. *Sheaths* 2 valves, separating the flowers; permanent.

BLOSS. With 6 divisions. *Segments* almost distinct petals; oblong, blunt. The 3 outer ones reflected; the other 3 upright and sharper: all connected together by the claws.

CHIVES. *Threads* 3; awl-shaped, lying upon the reflected segments. *Tips* oblong, straight, depressed.

POINT. *Seed-bud* beneath, oblong. *Shaft* simple, very short. *Summit* very large, consisting of 3 divisions which resemble petals; broad, reflected, alternately pressing down the chives and segments; cloven at the end.

S. VESS. *Capsule* oblong, angular; with 3 cells and 3 valves.

SEEDS. Several; large.

ESS. CH. *Bloss.* with 6 divisions, alternately reflected. *Summits* resembling petals.

I'R I S *pseud-ac'orus*. Blossoms not fringed; the innermost segments smaller than the summit. Leaves sword-shaped.— *yellow*

Curt. n. 33. fasc. iii. — Blackw. 261. — Fl. dan. 494. — Dod. 248. 1; repr. by Lob. obs. 31. 1; Ger. em. 50. 2. and cop. by Park. 1219. — H. ox. iv. 6. 11. (Math. 22. Ger. 46. 2; repr. by C. B. th. 633; Trag. 699; Fuchs. 12; cop. by J. B. ii. 732. 1; the descriptions accord, but the habit very different. — Ludw. ed. 101, cannot be the plant, the 3 inner petals being entire.)

Petals, the 3 outer ones toothed on each side next to the chives. *Seed-bud* with edges, furrowed. LINN. *Bloss.* yellow.

Valves of the empalement spear-shaped. *Petals*, the 3 outer and larger ones streaked with purple lines. *Summits* cut into fringed segments at the top. *Tips* compressed; purple. *Flowers* 3 together at the top of the stem: the 2 outer flowers have each 1 sheathing valve, and the middle flower 2. *Stem* cylindrical but compressed. *Root-leaves* sheathing each other at the base; of a silvery white within; sometimes purplish on the outside. I should be tempted to describe this flower as having 9 *Petals* and 3 *Shafts*; which are connected longitudinally to the 3 innermost petals. WITH.

Sometimes it has a pale yellow flower. RAY. Syn. 375.

Flower de luce. Water flag.

Banks of rivers, marshes, and wet meadows.

P. July.

The juice of the fresh root is very acrid, and hath been found to produce plentiful evacuations from the bowels when other powerful means had failed. *Edin. Med. Eff. vol. 5. art. 8.* It may be given for this purpose in doses of 80 drops, every hour or two; but the degree of its acrimony is so uncertain, that it can hardly ever come into general use. In some cases it proves diuretic. The fresh roots have been mixed with the food of swine bitten by a mad dog, and they escaped the disease, when others bitten by the same dog died raving mad. The root loses most of its acrimony by drying.

Goats eat the leaves when fresh; but Cows, Horses, and Swine refuse them: Cows will eat them when dry. The roots are used in the island of Jura to dye black. *Pennant's Tour, 1772. p. 214.*

sinking

I'RIS *fœtidissima*. Blossoms smooth; the inner segments expanding very much. Leaves sword-shaped. Stem with 1 angle.

Dod. 247. 2, repr. by Lob. obs. 37. 1, Ger. em. 60, and cop. by Park. 256. 5.—C. B. th. 560.—J. B. ii. 731. 2.—H. ox. iv. 5. 2.—In fruit; Fuchs. 794; cop. by Math. 991, Trag. 904, and J. B. ii. 731. 1.—Blackw. 158.—As growing on the sea-shore, Ger. 53. 1; repr. in C. B. th. 564.

Stem cylindrical, as long as the leaves, which cover it, and have a very fœtid smell. Seed-bud like the preceding. Bloss. of a disagreeable purplish ash-colour: not smelling in the night-time. Claws of the outer petals wrinkled and plaited on the under surface. Inner petals larger than the summit, expanding. LINN.

VAR. 2. Leaves striped.

Sinking Gladdon, or Gladwyn.

Near Hornsey, and about Charlton Wood, Kent. HUDS. Near Braintree, Essex. [Near Perthore, Worcesters. NASH. In the West of England not uncommon in lanes. Bath hills; Ditchingham, Norf. MR. WOODWARD.]

P. June. July.

The juice of the root, both of this and the preceding species, is sometimes used to excite sneezing; but it is an unsafe practice. Violent convulsions have sometimes been the consequence.

Neither Horses, Sheep, nor Cows, eat it.

bulbous-rooted

I'RIS *Xiphium*. Blossoms smooth. Flowers in pairs. Leaves awl-shaped, channelled, shorter than the stem.—

H. ox. iv. 7. 10.—Clus. i. 212. 2; repr. in Ger. 93. 3; and Ger. em. 101. 1; and cop. in J. B. ii. 705.—Clus. i. 214; repr. in Ger. em. 102. 6, and cop. in J. B. ii. 704. 1.—Swert. i. 35. 5.—In

III. CHIVES, I. POINTAL.

41

—In fruit; *Clus.* i. 213; repr. in *Ger. em.* 101. 2; and cop. in *Ger.* 93. 4.

Bulbous-rooted flower de luce.

This plant has long been an ornament to our gardens; but Dr. NASH, in his History of Worcestershire, informs us, that it has lately been discovered, by the DUTCHESS DOWAGER OF PORTLAND, by the river-side near Fladbury, and in other parts of that county. P.

71. SCHŒ'NUS. *Rushgrafs.* (*Gerard.*)

Pl. II. fig. 2.

EMPAL. *Husk* 2 valves; large, upright, tapering to a point, permanent: containing several florets.

BLOSS. *Petals* 6; spear-shaped, sharp, approaching, permanent: generally tiled; the outermost petals shortest.*

CHIVES. *Threads* 3, hair-like. *Tips* oblong, upright.

POINT. *Seed-bud* egg-shaped, with 3 flattened sides; blunt. *Shaft* bristly; as long as the blossom. *Summit* with 3 clefts; slender.

V. VESS. None; the petals close upon and contain the seed until it is ripe.

FEED. Single, shining, nearly egg-shaped, but with 3 sides a little flattened; thickest towards the top.

ESS. CH. *Husks* chaffy, of 1 valve, crowded together.

Bloss. o. *Seed* 1, roundish; within the husks. LINN.

Bloss. o. *Inner Scales* longer than the spike-stalk, the lower ones without chives and pointal. ST.

OES. In some species very small bristles, rising from the receptacle, surround the seed. LINN.

Lower scales barren; *upper* ones fertile. In the *Scirpus* they are all fertile. This seems the proper distinction of these two genera.

SCOP.—But in the *Scirpus acicularis* the outer scales are sometimes barren. ST.

In all the species which I have examined I have found scales of 2 kinds, the lower or outer ones hard, leathery, stiff, short, empty, barren, not unfrequently ending in an awn or spit-point; and the

* I cannot find these 6 petals in any one of the species. HALL. ST.—As it stands at present it is rather a description of a Restio. ST.—That they are only barren scales is evident from their often containing imperfect parts of fructification. SCOP.

the upper or inner ones longer, membranaceous, soft, fertile, awnless. Thus the *Schœnus* will differ from the *Cyperus* and *Scirpus* as the *Uniola* from the *Briza*. Perhaps it may without impropriety be arranged as a division of the *Scirpus*. РОТБ. СТ.?

* *Straw cylindrical.*

long-rooted

SCHÆ'NUS mariscus. Straw cylindrical. Leaves beset with prickles at the edges, and along the back.—

Lob. ic; repr. by Ger. em. 29. 3, cop. by C. B. th. 221; J. B. ii. 504. 1; H. ox. viii. 11. 24; and Park. 1264. 1.—Branch of the panicle, &c. Mich. 31. Pseudo-Cyp.—Parts of fructif. Scheuch. 8. 7—11.

A common empalement, HALL.—composed of scales without chives and pointal. СТ.

Long-rooted bastard Cyperus.

Marshes; bogs. [Bogs in Norfolk. MR. PITCHFORD.]

P. July. Aug.

It serves for thatching instead of straw, and often grows in such quantities in pools as to form floating islands. It is hurtful to Cows.

blackheaded

SCHÆ'NUS nigricans. Straw cylindrical, naked. Flowers in an egg-shaped head. Fence 2 leaves, one of which is long and awl-shaped.—

H. ox. viii. 10. 28.—Parts of fructif. Scheuch. 7. 12—14.

General fence 2 valves, notched at the end, with a sharp point in the middle. Awn of the outer Valve much longer than the whole head, and dark brown at the end. LINN.

Round black-headed Bogrush.

Cyperus nigricans, which see.

Bogs; marshes. [Bogs in Norfolk. MR. PITCHFORD.] P. June.

ferruginous

SCHÆ'NUS ferrugin'eus. Straw cylindrical, naked. Flowers in a double spike. Larger leaf of the fence just as long as the spike.—

H. ox. viii. 12. 40.

This species is 6 times smaller than the preceding. LINN.

See *S. rufus*, Mr. Smith's remark.

Brown bastard Cyperus.

Turfy bogs; mountains.

P. July.

brown

SCHÆ'NUS fus'cus. Straw cylindrical, leafy. Little spikes almost bundled. Leaves thread-shaped, channelled,—

H. ox. viii. 11. 40.

Very

Very much resembling the *Schæn. fasciculatus*, (Linnæus must mean the *Sch. albus*, distinguished in the *Hort. Cliff.* by the title of *Sch. flosc. fasciculat.*) in height, size, appearance, and place of growth, but still a different species, distinguishable by its *Little spikes* being brown, growing in clustered heads, and not white and flat-topped as in the *Sch. albus*. It flowers also earlier. LINN.

Panicle sometimes blackish. *Straw* not so tall, 3 cornered, but the angles blunt. *Leaves* marked with brown spots; 2 or 3 inches long, and somewhat more than half a line broad. POLLICH.

Schænus albus (fuscus) HUDS. who with Haller regards it only as a variety of the *albus*.

Turfy bogs.

P.

** *Straw* 3 cornered.

SCHÆ'NUS *compres'sus*. *Straw* naked, nearly 3 *compressed* cornered; flowers in the spike pointing two opposite ways. Fence 1 leaf.—

Straw leafy. *Little spikes* containing several flowers. HUDS.

Leers 1. 1.—Pollich. 1. 2.—Pluk. 34. 9.—*A spike*, Mich. 31. *Cyperella*. K. Scheuch. 11. 6.

Straws round, and somewhat flattened; below the spike 3 square. *Fence* scarcely longer than the spike. *Little-spikes* alternate. *Scales* fixed without any order to the receptacle. *Tips* with spit-points at the end. *Summits* 2. *Seed* surrounded with 6 rough bristles. LEERS. ST.—Specimen from Germany. ST.

Scirpus caricis. RETZ. fl. scand. n. 56.

Turf bogs. [Near Ditchingham-Bath, Norfolk. Mr. Woodward.] P. July.

SCHÆ'NUS *rufus*. *Straw* nearly 3 cornered, leafy. *brown* Spike nearly egg-shaped. *Little spikes* containing 1 flower. Fence 1 leaf. HUDS.—

Root perennial, branched, horizontal, creeping. *Straws* many, 6 inches high, upright, a little 3 cornered, undivided; leafy at the base. *Root-leaves* slender, sharp, naked, a little channelled, almost as long as the straw. *Stem-leaves* 2, on leaf-stalks, slender, sharp, about 3 inches long. *Leaf-stalk* sheathing, cylindrical, scored, smooth. *Spike* terminating, nearly egg-shaped. *Little-spikes* 5 or 6, sitting, alternate, tiled, reddish brown. Fence 1 leaf, sharp, as long as the spike, not quickly decaying. EMPAL. *Husk* of 1 flower and 2 valves. *Valves* upright, oblong, concave, permanent. *Bloss.* Petals 6, spear-shaped, sharp, skinny; half as long as the empalement. CHIVES. *Threads* 3, hair-like; shorter than the blossom. *Tips* oblong, upright, yellow. POINT. *Seed-bud*

TRIANDRIA MONOGYNIA.

bud egg-shaped, 3 cornered. *Shaft* very short. *Summits* 3, hair-like. *Seed* single, 3 cornered, tapering to a point. This species is very nearly allied to the preceding. HUDSON.

Marshes, in the Isle of Skye, and near Glasgow, *lb.* P. July.

The colour of rusty iron. *Straw* nearly cylindrical. LIGHTF.

Schænus compressus. Var. LIGHTF. *

In moorish places ; rare. In the Isle of Mull.

P. July.

white-
flowered

SCHÆ'NUS *albus*. *Straw* leafy, nearly 3 cornered. Flowers in bundles. Leaves bristly.—

Gies. 29.—*Fl. dan.* 320.—*H. ox.* viii. 9. 39.—*Pluk.* 34. 11.—

Branch of the panicle, Scheuch. 11. 11.—*Mich.* 31. 14. 1.—

(*Park. in Huds.* is the error of a transcriber for *Raj. hist.*)

Flowers at first white, but turning tawny. MICH.

Leaves slightly channelled. HUDS.

White flowered Rushgrafs.

Marshes. [A bog near Heydon, Norf. Mr. WOODWARD. Birmingham heath. W.]

P. July. Sept.

Goats eat it.

72. CYPE'RUS. Galingale. (Ger.)

Pl. II. fig. 3.

EMPAL. *Spike* tiled ; flowers pointing from 2 opposite lines, separated by egg-shaped *Scales* which are keeled on the back, and bent inwards at the edges.

BLOSS. None.

CHIVES. *Threads* 3 ; very short. *Tips* oblong, furrowed.

POINT. *Seed-bud* very small. *Shaft* thread-shaped, very long. *Summits* 3, hairlike.

S. VESS. None.

SEED. Single, 3 cornered, pointed ; not hairy.

Ess. CH. *Husks* chaffy, tiled, pointing 2 ways. *Bloss.* o.

Seed 1 ; naked.

black headed

CYPE'RUS *ni'gricans*. *Straw* cylindrical, naked. Spikes in an egg-shaped head. Fence of 2 leaves. ST.

Cyperus spicis, &c. HALL. n. 1347.

Schænus

* This is the var. of *Schænus compressus* of LIGHTF. t. 24, now allowed to be a distinct species. It has often been described for the *S ferrugineus*, which I believe has never been found in Britain. Mr. SMITH.

Schoenus nigricans, which see.

Fence. The greater valve from 1 to $1\frac{1}{2}$ line below the other. *Head* generally composed of two clusters of spikes, each with its proper fence. *Fences* and *Scales* of a black purplish brown. *Seeds* glossy, of a snowy or livid whiteness, like those of *Lithospermum officinale*. SCHEUCH. ST.

Scales pointing from 2 opposite lines. *Spike-stalk* bent alternately backwards and forwards. *Seeds* roundish approaching to 3 square, of a pearly lustre. HALL. ST.

Spikes spear-shaped, flattened, on very short fruit-stalks. *Scales* spear-shaped, from 5 to 6. *Seed* naked. POLLICH. ST.

Each *Seed* lies within the corresponding curvature of the spike-stalk, and is inclosed by the embracing sides of the scale above it, as well as by its own; marked lengthways by 3 prominent ribs.—Every part of the plant rigid.—To arrange amongst the *Cyperuses* after the *monostachyos*, to which it has the nearest affinity, and which it seems to connect with the umbelliferous species. ST.

CYPE'RUS *longus*. Straws leafy, 3 cornered. Flow-english
ers in a treble compound leafy bundle. Fruit-stalks
naked. Spikes alternate.—

H. ox. viii. 11. 13.—*Fuchs. 453. cop. by Trag. 915; (but improperly referred by C. B. to his C. rot. vulg.) and J. B. ii. 501. 1.*
—*Math. 26. left half of the fig. cop. in Ger. 28. 1.*—*Dod. 338. 2. repr. by Lob. obs. 40. 1. Ger. em. 30. 1. and cop. by Park. 146. 3. (descr. n. 4.)—C. B. th. 216.—Blackw. 316.—Branch of panicle, Scheuch. 8. 12.—(Pluk. 192. 1, and Mont. 1. 2, quoted by the Germ. synonyms, appear to be other plants.)*

Root long, odoriferous.

Fruit-stalks sometimes to the amount of 12 or 13, forming a sort of rundle, the outer spokes of which are gradually shorter and shorter. *Little spikes* slender, tapering to a point, chestnut-coloured. SCOP.

Sweet Cyperus. English Galingale.

Fens and marshes. [Not found on St. Faith's bogs, as mentioned by Mr. Hudson, Ed. 2.—A specimen of it was by mistake sent to Mr. Hudson with some of St. Faith's plants. MR. SMITH.]

P. July.

The root is agreeably aromatic to the smell, and warm and bitter to the taste. The modern practice disregards it; but perhaps it is not inferior to some of the more costly medicines brought from abroad.

73. SCIR'PUS. Club-grafs.

Pl. II. fig. 4.

EMPAL. *Spike* tiled ; the flowers growing equally from every fide, and feperated by egg-shaped *scales* bent inwards at the edges.

BLOSS. None.

CHIVES. *Threads* 3 ; which continue growing longer. *Tips* oblong.

POINT. *Seed-bud* very small. *Shaft* thread-shaped, long. *Summits* 3, hairlike.

S. VESS. None.

SEED. Single, 3 cornered, pointed ; furnished with foft hairs, which are fhorter than the empalement.

ESS. CH. *Hufks* chaffy ; tiled on every fide. *Blofs* o. *Seed* 1, beardlefs. LINN.

Blofs. o. *Inner scales* fhorter than the *spikeftalk*, the lower ones generally producing *chives* and *pointal*. ST.

OBS. Soft hairs in fome fpecies grow to the point, in others to the bafe of the feed.

* *Spike fingle*.

common

SCIR'PUS *palustris*. Straw cylindrical. *Spike* nearly egg-shaped, terminating.—

tall.

Fl. dan. 273.—*Lob. obs.* 44. 1 ; repr. in *Ger. em.* 1631. 7, and cop. by *Park.* 1196. 1.—*H. ox.* viii. 10. 32.—*C. B.* 186.—*J. B.* ii. 523. 3.—*Spike and fruitif.* *Leers* 1. 3. (the beft.)

VAR. β *Fl. dan.* 167, in the opinion of *Mull. fl. fried.* confirmed by an examination.—*H. ox.* viii. 10. row 3. fig. between 33 and 34.—*Park.* 1196. 2.—*Spike Scheuch.* 7. 17.

Straw not perfectly cylindrical. *Leaves* compressed ; of a reddish brown colour at the bafe. *Hairs*, 3 or 4, at the bafe of each feed-bud. SCOP.

Club-rufh. *Aglet-headed Rufh.*

Banks of rivers, ponds, and ditches ; frequent. [β. Near Stafford, and Severn Stoke, Worcefterfh. ST.] P. July.

Swine devour the roots greedily when fresh, but will not touch them when dry. Goats, Horses, and Hogs eat it. Cows and Sheep refuse it.

SCIR'PUS *cæspitosus*. Straw scored, naked. Spike *dwarf* terminating, with 2 valves as long as the empalement. Roots separated by scales.—

Straw covered at the base with tiled sheaths, the uppermost terminating in short leaves. **ST.**

Scheuch. 7. 18.—J. B. ii. 523. 2.—C. B. 79.—(Fl. dan. 167. referred to this species by every author except Muller is a var. of the *S. palustris*; and H. ox. viii. 10. row 3. 35. cannot be the plant, since the spike is 4 times as long as the empalement.—Pluk. 40. 6. appears to be a different plant, the same with H. ox. viii. 10. row 3. 34; and in Barr. 256. 1. the inner valve of the empalement is nearly twice as long as the outer.)

Straws from 2 to 6 inches high. Spike, the 2 outer scales as long as the spike, and performing the office of a fence, but producing seed. Seeds with hairs from the base. **ST.**

Dwarf Ciubrysh. Deers hair.

Turf bogs and dry heaths.

P. July.

Goats, Sheep, and Cattle eat it.

SCIR'PUS *pauciflorus*. Straw scored, naked. Spike *chocolate*-terminating; with few flowers; longer than the valves *headed* of the empalement. **LIGHTF.**

Scheuch. 7. 19.—Ger. em. 21. 3. cop. by Park. 1270. 7.—J. B. ii. 509. 1? (Fl. dan. 167, according to Oed. and which Mr. Lightfoot refers to, though doubtfully, is a var. of the *S. palustris*.)

Root-leaves as high, or higher than the stalks, which they resemble. Stalks and Leaves sheathed. Sheaths lopped, and not ending in a projecting point as in the *S. cæspitosus*. Empal. valves 2, oval, not ending in a rigid point. (*non mucronatæ*. HALL.) **LIGHTF.**—but Scheuch. describes them as ending in a sharp point. **ST.**

It seems to be a var. of the *S. cæspitosus*. **HUDS.**

Scirpus Bæothryon, inserted by Ehrhart in LINN. the SON'S Suppl. 1103?—no figure referred to, but the character seems to have been formed from the descriptions of Haller and Lightfoot. **ST.**

Highland Mountains. [Ellingham Fens, Norf. Mr. WOODWARD.]

P. Aug.

SCIR'PUS *acicularis*. Straw cylindrical, naked, *slender* bristle-shaped. Spike egg-shaped, consisting of 2 valves. Seeds naked.—

Straw 4 cornered. **HUDS.**

Fl. dan. 287.—H. ox. viii. 10. row 3. 37.—Pluk. 40. 7. (Fl. dan. 167, another plant, as Oed. acknowledges: see Fasc. v. p. 8. t. 287.)

Leaves

Leaves crooked, stiff, cylindrical.

Scales 2 on the outside of the spike, egg-shaped, somewhat pointed, as long or only half as long as the spike. *Scales of the Flowers*, shape as the former. POLLICH. In one specimen the 2 outer scales containing no chives or pointal, in 4 others producing feed as the rest, as in the fig. of the Fl. dan. whence Mr. Hudson has very properly omitted that circumstance in his specific character. *Straw* from 1 to 6 inches high. Forms a fine close green turf. ST.

Least upright Club-rush.

Marshes and bogs. [Malvern Chace, Worc. ST.] P. Aug.

floating

SCIR'PUS *flu'tians*. Straws cylindrical, naked, alternate. Stem leafy and limber.—

H. ox. viii. 10. 31.—*Scheuch.* 7. 20. (*Pluk.* 35. 1. *Spikes ill done.*)

Floating Club-rush. Ponds; Ditches. P. July. Aug.

* * *Straw cylindrical; with several spikes.*

Bull-rush

SCIR'PUS *lacus'tris*. Straw cylindrical, naked. Spikes several, egg-shaped, on fruit-stalks, terminating. LINN.—*Empalements* fringed, cloven into 3 segments, the middle one awl-shaped. ST.

tall

α. Fence somewhat membranaceous, shorter than the panicle. Spikes rather oblong. HUDS.

H. ox. viii. 10. 1.—*Ger.* 31. 3; repr. in *C. B.* 178.—*J. B.* ii.

522. 2. *Dod* 605. 1; repr. by *Ger. em.* 35. 3, and cop. by

Park. 1191. 1.—*Leaves, Trag.* 674. 1.

Empalements brown, or brownish chestnut. SCHEUCH. ST.

dwarf

β. Fence nearly the length of the panicle. Spikes egg-shaped. HUDS.

Ger. 31. 4, repr. in *C. B.* 181.

Spikes dark chestnut, or dark brown with a tinge of red. SCHEUCH.

Empalements dark brownish purple above; below, whitish with purple spots. ST.

keeled

γ. One side of the straw flattish. HUDS.

H. ox. viii. 10. 2.

Scales of the spikes cloven, and a little pointed substance at the bottom of the cleft. *Seed-bud* with 5 or 6 hairs at the base. *Seeds* brown. SCOP.

Spikes chestnut-colour. W.

Empal. fringed with short curled hairs. ST.

Bull-rush. Rivers; pools; fens.

P. July. Aug.

When fodder is exhausted, Cattle will live upon it. Cottages are sometimes thatched, and pack-saddles stuffed with it. Bottoms of chairs are very commonly made of this rush. If cut at one year old

old it makes the fine bottoms. Coarse bottoms are made of it at two years old ; and those that are still older, mixed with the leaves of the *Iris pseud-acorus*, make the coarsest bottoms of all. Mats are likewise made, either of the *Scirp. lacustris* alone, or mixed with the afore said leaves.—Goats and Swine eat it. Cows and Sheep refuse it.

SCIR'PUS *Holofschæ'nus*. Straw cylindrical, naked. round-headed Spikes nearly globular, congregated, standing on fruit-stalks ; with a fence of 2, unequal, sharp, pointed leaves.—

H. ox. viii. 10. 17.—*Mich.* 31. (*Scirpoides*.)—*Scheuch.* 8. 2—5.
—*Pluk.* 40. 4.—*C. B.* 174.—*Park.* 1194. 4.—(*Fl. dan.* 454, undoubtedly another plant, though Oeder's error has been copied by every subsequent author.)

Sheaths of the leaves jagged and fringed. 1 or 2 of the heads of flowers without fruit-stalks. *Scales* roundish, but terminated by a whitish slender point. **SCOP.**

Sea coast.

P. July.

SCIR'PUS *roma'nus*. Straw cylindrical, naked. single-headed Head lateral, compact. Floral leaf bent back.—

Jacq. fl. 448.—*Barr.* 255. 3.—*Head*; *Scheuch.* 8. 6.—*Pluk.* 40. 5.
Straws the thickness of a thread ; those of the *S. Holofschænus* as thick as the *S. lacustris*, and sharp pointed. **LINN.**

Frequently many-headed. *Scales* egg-shaped, sharp, concave. *Tips* yellow. *Summits* white. **JACQ.**

Moist meadows. Marshy places, near Throgmorton, Worcesterhire. **HUDS. and NASH.**

P. July.

SCIR'PUS *seta'ceus*. Straw naked, bristle-shaped. leaf Spike terminating, fitting. **LINN.**—Seeds naked. **ST.**

Fl. dan. 311.—*Leers.* 1. 6.—*Rottb.* 15. 5. and 6.—*H. ox.* viii. 10. 23.—*Park.* 1270. 10 and 9.—*Barr.* 118. 2, wretched, if really the plant. (*Rottb.* 15. 4, which he refers to the *S. setaceus*, *Mant.* came from the Cape.)

Leaves like bristles. *Straws* naked, numerous ; as thick as the leaves, but twice as long. *Spike* 1, rarely 2, terminating, egg-shaped. Lowermost *Scale* awl-shaped, pale, as long as the spike. **LINN.**

The *Floral-leaf*, called by Linnæus the lowermost *Scale*, is apparently an extension of the *Straw*, sometimes 2 lines in length, (as *Rottb.* 15. 5. *Scirp. setac.* β ; which though gathered near Paris he fancies to be the *Cyperus minimus*,) but frequently half an inch or more, as *Fl. dan.* *Leers.* *H. ox.* and *Rottb.* 15. 6. *Scirp. setac.* γ. *Spikes* 2, 3, or 4 ; or, as on some of the shorter straws, only 1.

TRIANDRIA MONOGYNIA.

SCHEUCH. with whose remarks, my specimens, all from one root, perfectly accord ; except that I find no straw with more than 3 spikes. ST.

The number of spikes varies from 1 to 4. HUDS.

Spikes greenish brown, tinged with rose-colour. W.

Least Rush. Small Plymouth Rush-grafs.

Wet sandy ground.

A. July. Aug.

*** Straw 3 cornered. Panicle naked.

3 square

SCIR'PUS *tri'queter*. Straw 3 cornered, naked. Spikes, some nearly fitting, others on fruit-stalks ; as long as the sharp-point.—

Pluk. 40. 2.

Sides of the straw flat, not hollowed out. LINN.

S. mucronatus triqueter. HUDS.

P.

Banks of the Thames above and below London.

pointed

SCIR'PUS *mucronatus*. Straw 3 cornered, taper, naked. Spikes lateral, fitting ; crowded together.—

H. ox. viii. 10. 20.—Pluk. 40. 1. and 3.—C. B. pr. 22. 1 ; th.

175.—Head, Scheuch. 9. 4.

Straws 3 cornered, triangular, keeled 3 ways ; angles compressed. Sharp-points much longer than the flowers ; bent sideways. LINN.

Empalements sharp-pointed. 3 awn-like threads at the base of the seeds. SCHEUCH.

Pollich's should seem to be a different plant, for he describes the empalement as blunt. ST.

Spikes rusty-iron coloured, with scales like those of the *S. lacustris*. SCOP.

Sea-shore ; banks of large rivers.

P. July. Aug.

**** Straw 3 cornered, panicle leafy.

salt-marsh

SCIR'PUS *maritimus*. Straw 3 cornered. Panicle close, and leafy. Scales of the little spikes cloven into 3 segments ; the middle segment awl-shaped.—

round-rooted

α and γ ? C. B. pr. 24. repr. in th. 215. and cop. in Park. 1263.

4. and H. ox. viii. 11. 9.—Ger. em. 31. 5. seems to be the same.—Panicle, Scheuch. 9. 9 and 10. probably the same. Specimens gathered in England, place unknown.

spreading

δ Ger. 20. 7. repr. in C. B. th. 86.—Ger. em. 22. 7. cop. by Park. 1266. 6. right-hand plant, H. ox. viii. 11. 25. and in J. B. ii. 495. 1. left-hand plant.—Dod. 338. 1. repr. in Lob. obs. 39. 2. confirmed by Mich. and not *Cyper-esculent*.—Branch of the panicle, Scheuch. 9. 7 and 8. (C. B. 214.—Lob. obs. 40. 3. cop. in Park.

Park. 1264. 3. and the *H. ox.* viii. 11. 8.—*J. B.* ii. 503. 3.—
as also *Lob. obs.* 40. 2. *cop.* in *J. B.* ii. 503. 1. seem to be
Carexes.)

± *Ger. em.* 22. 7. *cop.* in *Park.* 1266. 6. left-hand plant, and *J. B.* tuffed
ii. 495. 1. right-hand plant. Specimen from the saltmarsh at Shir-
ley Wich, Staffordsh. ST.

Leaves stiff, and sharp at the edges. Little spikes much longer. LINN.

Panicle sometimes branched, sometimes simple. HUDS. as in the
fig. on the left hand in *Park.* and that on the right in *J. B.* ST.

Spikes oblong; the colour of rusty iron. Seeds the same colour;
shining, egg-shaped but compressed, and tapering to a point: 2 or
3 whitish, lopped, chaffy substances, shorter than the Shaft, rise
from the base of the Seed-bud. Shaft brownish red. Summit un-
equal. In some specimens the Spikes are sitting, and the Stem-leaves
shorter than the Straw; in others they are longer: and in some
the Spikes are some sitting, some on fruit-stalks. SCOP.

Sea-coast. Salt Marshes near Yarmouth. MR. WOODWARD.
P. Aug.

Cows eat it. The roots, dried and ground to powder, have been
used instead of flour in times of scarcity.

SCIR'PUS *sylvaticus*. Straw 3 cornered, leafy. wood
Rundle leafy. Fruit-stalks naked, trebly compound.
Spikes crowded.—LINN. Empalements entire. ST.

C. B. th. 90.—*H. ox.* viii. 11. 15.—*J. B.* ii. 504. 2.—*Fl. dan.*
307.—*Lob. adv.* 38. 1; repr. by *Ger. em.* 30. 5, and *cop.* by
Park. 1171. 2.—Branch of the rundle, *Leers* 1. 4. *Fl. dan.* 307.

Leaves flat. Tips yellow. Seed-bud with 3 or 4 hairs at the base. SCOP.

Leaves very broad, keeled; with a blunt, coloured, projection
at the end: the edges and keel rough with strong hairs. Seeds girt
with 4 or 6 short hairs rising from the base of the seeds. LEERS. ST.

Millet *Cyperus* grass.

Wet shady places. [Ditchingham, Norf. MR. STONE.] P. July.

Cows, Sheep, Horses, and Goats eat it. Swine refuse it.

74. ERIOPH'ORUM. Cottongrafs.

Pl. II. fig. 5.

EMPAL. *Spike* tiled ; the flowers growing equally from every fide, and feparated by oblong-eggfhaped membranaceous, flexible, tapering *Scales*, which are flat but turned in at the edges.

BLOSS. None.

CHIVES. *Threads* 3, hair-like. *Tips* upright, oblong.

POINT. *Seed-bud* very fmall. *Shaft* thread-fhaped, as long as the fcale of the empalement. *Summits* 3, longer than the *shaft*, reflected.

S. VESS. None.

SEED. 3 cornered, tapering to a point ; furnished with foft hairs, which are longer than the fpike.

ESS. CHAR. *Hufks* chaffy ; tiled on every fide. *Blofs.* 6. *Seed* 1, furrounded with very long wool.

Single-headed

ERIOPH'ORUM *va'ginatum*. Straw cylindrical ; fheathed. *Spike* skinny.

In fruit. Curt. iv. 37.—*Fl. dan.* 236.—*Scheuch. prod. ancl app.* 7. 1.—*J. B.* ii. 514. 2.—*C. B. pr.* 23 ; *repr. in th.* 188, and *cop. by Park.* 1272. 5.—*H. ox.* viii. 9. row 3. 6. *Gr. junceum.* ib. 6. *Gr. junceoid.*—*Park.* 1272. 2.—*ib.* 1.—*In bloffom.* Curt. ib.—*Park.* 1189. 1.—*Spike and parts of fructif.* *Sceuch.* 7. 1—3. *Mont.* I. K.

Root-leaves imperfectly 3 cornered, fsharp, with two of the fides fcored. *Stem-leaves* cylindrical. *Sheaths* inclofing the ftraw ; the uppermoft purple at the bafe. *Straw* twice as long as the leaves ; fcored, cylindrical, but flat on one fide. *Spike* egg-fhaped, tiled. *Scales* skinny ; brown : the lower ones barren ; the upper ones bearing woolly feeds. LINN.

Spike fingle. *Scales* brown. *Straw* bluntly 3 cornered. *Sheath* from 1 to 2 inches long, rifing from the joint of the ftraw ; purple at the lower, skinny and fpear-fhaped at the upper part. Another *Sheath*, lower down, rifes from the root. *Root-leaves* 3 cornered, convex on one fide, flat on two fides. WITH.

Hare's-tail Ruff. *Mofs-crops.*

Bogs. [Near Lynn. Mr. PITCHFORD. Very frequent in all the northern counties. Mr. WOODWARD. Birmingham heath, in the marfhy valley croffed by the foot-road to Winfon-green. W.]

P. Febr. April.

ERIOPH'ORUM *polystachion*. Straw cylindrical. many-headed
Leaves flat. Spikes on fruit-stalks.—

Curt. iv. 37.—*Vaill.* 16. 1 and 2.—*Leers* 1. 5.—*H. ex.* viii. 9.

row 3. 1. *Ger.* 27. 1. repr. in *C. B. th.* 61.—*Trag.* 683.—

Garid. 44.—*Dod.* 562. 2; repr. in *Ger. em.* 29³⁶—*Barr.* 12.

—*J. B.* ii. 514. 1.—*Parts of fructif.* *Mont. (Linagrost.) K. L. l.*

Spikes pendant; generally 3 upon each straw, which rises out of a sheath, formed by 3 brownish leaves, the outermost of which is much longer than the rest and green at the end. Leaves sheathing the stem; semi-cylindrical, and hollow at the lower part, but solid and 3 cornered towards the top; tapering gradually to a point. W.

Cottongrafs. Moorgrafs. Moss-crops.

Marshes and bogs, not uncommon. [Birming. heath, Aquilate Meer, near Newport, Shrop. covering several acres. W.] P. June.

This plant is useful in the Isle of Skie, to support Cattle in the earlier part of the Spring, before the other grasses are sufficiently grown. *Pennant's Tour*, 1774. p. 308. Poor people stuff their pillows with the down, and make wicks of candles with it, but it becomes brittle when quite dry.

OBS. The last 4 genera are nearly allied to the GRASSES, and a superficial observer would be tempted to consider them as such; but an attentive perusal of the generic characters will afford sufficient distinctions. (*See the Plate of Grasses.*) *

* Different View of the last Four Genera.

ERIOPHORUM. Seeds with hairs longer than the empalement. **HALL.**

Eriophorum. **Linn.**

SCIRPUS. Seeds with hairs shorter than the empalement, **HALL.**

* 1. Scales tiled,—as in the Eriophorum.

S. palustris. Empal. entire. Spike single, terminating. Straw cylindrical.

S. mucronatus. Empal. sharp-pointed. Spikes sitting, lateral. Straw 3 cornered.

S. sylvaticus. Empal. entire. Spikes in panicles.

S. lacustris. Empal. cloven into 3 at the end, fringed. Spikes in panicles. Straw cylindrical.

S. maritimus. Empal. cloven into 3 at the end. Spikes in panicles. Straw 3 square.

** 2. Scales bundled. Spikestalk shorter than the scales.

Schœnus compressus. Spike compound. Little spikes pointing 2 ways.

Schœnus albus. Little spikes bundled. Outer scales shorter than the inner.

S. pauciflorus. **LIGHTF.** Outer scales longer than the inner, but shorter than the spike. Root-leaves as long as the straw.

S. cæspitosus. Outer scales as long as the spike. Root-leaves shorter than the straw. **ST.**

MARISCUS. Seeds naked. **HALL.**

Schœnus mariscus, Scirpus acicularis, setaceus.

75. NAR'DUS. Matgrafs

Pl. II. fig. 6.

EMPAL. None.

BLOSS. 2 valves ; *outer Valve* long, betwixt strap and spear-shaped ; pointed at the end, and inclosing the *lesser Valve*, which is strap-shaped and sharp pointed.CHIVES. *Threads* 3, hair-like ; shorter than the blossom. *Tips* oblong.POINT. *Seed-bud* oblong. *Shaft* single, thread-shaped, long, downy. *Summit* simple.

S. VESS. The blossom adheres to the seed, without opening.

SEED. Single, inclosed in the blossom ; long and narrow, tapering to a point at each end, the upper part narrowest.

ESS. CHAR. *Cup* o. *Bloss.* 2 valves.

heath

NAR'DUS *stricta*. Spike slender, straight ; the florets pointing in one direction.—*Schreb.* 7.—*C. B. th.* 70.—*H. ox.* viii. 7. 8.—*J. B.* ii. 513. 2.—*Lob. ic.* 90. 1 ; *repr. in Ger. em.* 1631. 3, and *cop. by Park.*1199. 5—6—7.—*Spike, &c. Leers* 1. 7.—*Scheuch.* 2. 10.—*Mont.* 31.*Spikes* yellowish white, or violet colour. *Florets* rising only from one side. WITH.*Straw* with 1 joint near the base, and 1 short bristly leaf. *Root-leaves* numerous, long, thread-shaped, a little rough. *Spike-stalk* convex on one side, hollow on the other, with alternate teeth at the edges, and rough, for the insertion of the florets. LEERS.*Small Matweed. Heath Matweed.*

Heaths and marshes. [Heaths in Norf. frequent. Mr. WOODWARD. Malvern Chace, Worcest. Mr. BALLARD. Birmingham heath, St. Lillefhall pool dam, Shropsh. W.] P. June. Aug.

This grafs is stiff and hard to the touch, but being generally short, it eludes the stroke of the scythe, and takes off its edge, which makes it disliked by Mowers.

Goats and Horses eat it. Cows and Sheep are not fond of it. Crows stock it up, for the sake of the larva of insects which they find at the root.

Order

Order II.

DIGYNIA. II. POINTALS.

82. PAN'ICUM. Panick.

Pl. II. fig. 7.

EMPAL. *Husk* with 3 valves*, containing 1 floret. *Valves* nearly egg-shaped; the *smallest* standing behind the other two.

BLOSS. 2 valves. *Valves* nearly egg-shaped, the *smaller* valve the flattest.

CHIVES. *Threads* 3; hair-like, short. *Tips* oblong.

POINT. *Seed-bud* roundish. *Shafts* 2; hair-like. *Summits* downy.

S. VESS. The blossom adheres to the seed without opening.

SEED. Single, inclosed in the blossom; roundish, but a little flattened on one side.

ESS. CHAR. *Bloss.* 3 valves; 1 very small.

PAN'ICUM *verticillatum*. Spike whorled. Little *rough* bunches in fours. Little fences of 2 bristles, with 1 flower. Straws spreading.—

Curt. iv. 44.—H. ox. viii. 4. 11. Ger. 14. repr. in C. B. th.

139; cop. by Park. 1177. 2, and J. B. ii. 469. 1.—Ger. em.

15. 1. (J. B. ii. 491. 2. is a different species.)

Greatly resembling the *P. viride*, but the *bunches* of the *Spike* longer, 3 or 4 together, pointing downwards on one side. *Flowers* green. *Pointals* purple. 1 or 2 *rough Bristles* to each flower, and longer than the flower. *Little fruit-stalks*, after the falling off of the

* *Valves* generally 4. The 1st or *outermost*; the 2nd opposite to the *outermost*, and covering the outer valve of the blossom; the 3rd opposite and similar to the 2^d; the 4th between the 3^d and the inner valve of the blossom, flat, membranaceous, and generally smaller than the 1st.—Mr. Curtis has seen and figured it in the *P. Crusgalli*, f. 5. 6.; but calls it a membrane between the empal. and bloss. It exists in the *P. glaucum*, *viride*, *miliaceum*, *capillare*, *patens*, and even in the *sanguinale*, where, still observing its proportion to the outer valve, it is with difficulty discovered. In the *patens*, with the assistance of the 3rd valve, it performs the office of a blossom inclosing 3 naked chives. In the *P. Dactylon* there are only 2. St.

flowers, terminated by a lopped, hollow, white cup. *Spike-stalk* cloven, with 3 or 4 corners. Straws smooth; spreading; 2 feet high. *Leaves* naked. LINN.

Kneed-grafs.

Cornfields between Putney and Roughampton. RAY. Battersea fields. CURT. A. June. July.

green

PAN'ICUM *viride*. Spike cylindrical. Partial fence including 2 florets; hairy and bundled. Seeds stringy.—

Curt. iv. 44.—Ger. em. 17. 3.—Park. 1154. 2 and 3.—(Fl. dan. 852, called *P. crusgalli*; Mr. WOODWARD.) Ger. 20. 8; repr. in C. B. th. 138, and cop in H. ex. viii. 2. 10.—J. B. ii. 431. 1.—Spike; Leers 2. 2.—Fructif. Scheuch. 2. 2.

Straw from 12 to 18 inches high; leafy; with 3 joints; scored and rough towards the top. *Leaves* rather broad, rough on the upper side. *Spike* betwixt cylindrical and egg-shaped, unequal in thickness; green, purplish on one side. *Fruit-stalks* very short. *Bristles* white, or purplish; several surrounding each floret, and 4 times as long as the floret. The third petal of the bloss. always wanting. LEERS.—not always present. SCOP.

4th valve as short again as the blossom, while that of the *P. glaucum* is nearly as long as the blossom. Blossom oval, roughish, but even; that of the *glaucum* roundish-eggshaped, rough, and undulated. ST.

Sandy fields. [Corn fields, Ditchingham, Norf. Mr. WOODWARD. Many places about Norwich. Mr. SMITH.] A. July.

loose

PAN'ICUM *Crusgalli*. Spikes alternate and in pairs. Little spikes sub-divided. Husks awned, and rough with strong hairs. *Spike-stalk* with 5 angles.—

smooth

α Awns not above once and a half as long as the empalement. LINN. 10 awns. CURT.

Curt. iv. 41.—Math. 407.—H. ex. viii. 4. row 1. 15.—Dcd. 559. 2, repr. by Lob. obs. 25. 2, and Ger. cm. 85. 4; and cop. by Park. 1154. 1.—Ger. 79. 5, repr. in C. B. th. 136.—C. B. th. 142. (Dod. 561. 3. seems a different plant.)

bearded

β Awns 10 times as long as the empalement.

Ger. 15. 1. repr. in C. B. th. 137.—J. B. ii. 443. 2.—Ger. cm. 16. 1, cop. by Park. 1154. 4.—Panicle, &c. Leers 2. 3.—Fructif. Scheuch. 2. 2. F. (Fl. dan. 852. is the *P. viride*. Mr. WOODW.)

Wet corn-fields; rare. About Battersea. Near Martha's Chapel, by Guildford. Hubs. Between Deptford and Greenwich; near Petersfield, by the rivulet, Hants. RAY. A. Aug.

PAN'ICUM *sanguinal'e*. Spikes fingered ; knotty *cock's-foot* on the inside the base. Flowers in pairs ; without awns. Sheath of the leaves dotted.—

Curt. iv. 41.—Schreb. 16.—H. ox. viii. 3. row 1. 2.—Buxb. v. 65.—Clus. ii. 217. 2 ; repr. in Lob. obs. 13. 1 ; and Ger. em. 27. 2 ; and cop. by Park. 1178. 1.—Ger. 25. 2. repr. in C. B. th. 114.—J. B. ii. 444. 1.—(Fl. dan. 388 ? Flowers stiled, and lesser spikestalks bare of flowers a considerable way up. Separate spikestalks well done.)—Spikes, &c. Leers 2. 6. not a good resemblance though the only fig. where the knots at the base of the spikes are represented.—Scheuch. 2. 11. G. H.—(Math. 1000 seems to be the var. noticed by Scheuch. p. 102, 103.)

Flowers slightly hairy. HALL.

Empal. outer valve very minute. SCHREB. ST. ; very often wanting.

Straw leafy, smooth ; with 3 joints, the 2 lower ones procumbent, the upper one very long, rising obliquely. Leaves rather broad, short, smooth. Sheaths of a blood red, set with very minute rising dots, and bristly. Valves of the empal. pubescent. Seeds reddish, shining. LEERS.

Sheaths of the leaves bare, as in the fig of Schreb. and Fl. dan. beset with soft hairs, Scheuch. ; or very hairy, as in Curt. Buxb. Clus. &c. sprinkled with a number of minute round brown tubercles, obvious to the naked eye ; but no knots at the inner base of the spikes. (Specimens from Germany.) Both circumstances wanting in the plant figured by Curtis. ST.

Spike-stalks flattened, as if bordered. Flowers placed in alternate pairs. SCHEUCH. ST.

Straws leafy. Leaf-sheaths dotted. Spikes on very short fruit-stalks. Spikestalks somewhat zigzag. Flowers sometimes in threes, the lowermost on a fruit-stalk shorter than the flower. Empal. (sometimes) pubescent. LEERS. ST.

A callous hairy substance between the base of the spikes and the straw. LEERS. but not discernibly, at least in dried specimens. ST.

Dots on the leaf-stalks scarcely visible ; LEERS and CURT. in my specimens very obvious. ST.

The longer fruit-stalk supporting a flower with only a pointal ; Scop. but in my specimens both flowers have chives and pointal ; but when 3, the uppermost has neither. ST.

Empal. valves bordered with a woolly fringe (specimen from the son of Prof. Jacquin) ; or outer ribs roughish, as in Curt. f. 1. 11. 12. (specimen from Prof. Leske, titled *P. filiforme*, which may perhaps prove to be our English species)—2nd valve half or 3 times shorter than the blossom ; the outer one as much shorter than the

the 2d.—The 4th valve, (see obs. on the genus,) still smaller, and figured by Curt. f. 8, is an additional proof that it is truly a *Panicum*, and not a distinct genus, as Haller and others have supposed. ST.

Corn-fields near Battersea; and Martha's Chapel, Guilford. HUDS. [At Witchingham, Norf. Mr. Woodw.] A. July. Aug.

creeping

PAN'ICUM *dac'tylon*. Spikes fingered, expanding; soft hairs on the inside the base. Flowers solitary. The plant sends out creeping runners. LINN.—Empalement of 2 valves. ST.

Clus. ii. 217, repr. by *Lob. obs.* 12. 1, and *Ger. em.* 28. 3, and cop. by *Park.* 1179. 5.—*C. B. th.* 112. 113; cop. in *H. ox.* viii. 3. row 2. 4.—*Barr.* 753. 1.—*H. ox. ib.* 6.—*Spikes*, Mont. 99.—*Scheuch* 2. 11. I.

Bloss. an awn-like thread proceeding from the base of the inner valve. SCHEUCH. ST.

Bloss. edges slightly woolly. *Flowers* pointing one way. HALL. ST.

Empal. *Husks* spear-shaped, finely tapering, expanding, nearly as long as the blossom. *Bloss.* keeled. *Shafts and Summits* violet. POLLICH. ST.

Bloss. *Inner valve* egg-shaped, keeled, as narrow again as the outer. The awn-like substance from its base apparently the rudiment of a pedicle analogous to those in the *Melica*, &c. ST.

(*C. B.* 117. a good representation of it. Mr. Woodward, but from the descr. a distinct species.)

Sandy grounds, sea-shore. Between Penzance and Market-jeu, Cornwall. RAY. P. July.

84. ALOPECURUS. Foxtail.

Pl. II. fig. 8.

EMPAL. *Husk* 2 valves containing 1 floret. *Valves* equal, betwixt egg and spear-shaped; concave, compressed.

BLOSS. 1 concave *Valve* as long as the empalement, with a long *Awn* upon the back fixed towards the base.

CHIVES. *Threads* 3, hair-like. *Tips* forked at each end.

POINT. *Seed-bud* roundish. *Shafts* 2, like tendrils; reflected; longer than the empalement. *Summits* simple.

S. VESS. The blossom incloses the seed.

SEED. Single; roundish; covered by the blossom.

ESS. CHAR. *Cup* 2 valves. *Bloss.* 1 valve.

ALOPECU'RUS *pratensis*. Spiked Straw upright. *meadow*
Husks woolly. Blossoms without awns.—LINN. Blossoms awned. Husks spit-pointed. ST.—Panicle spike-like, cylindrical. HUDS. and ST.

Schreb. 19. 1.—Mus. Rust. iv. 2. 9.—Stillingf. 2, out of blossom.—

H. ex. viii. 4. 8. confirmed by Schreb. though denied by Linn.—

Ger. em. 11. 1.—Park. 1164. 3.—(Barr. 123. 1. not the plant.)

—Spike, &c. Leers 2. 4.

That the Blossoms are awned, besides the figures Schr. Leers, and Scheuch. see Pollich. i. p. 62. and Scheuch. p. 71. ST.

Empal. Keels fringed. MR. HOLLEFEAR.

Foxtail Grass. Meadows, very common. P. May. June.

This is the best grass to sow in low meadow grounds, or in boggy places which have been drained. Sheep, Horses, and Goats eat it. Cows and Swine are not fond of it. LINN. But Dr. PULTNEY says, this is the most grateful of all grasses, to Cattle.

ALOPECU'RUS *agrestis*. Spiked straw, upright. *field*
Husks smooth.—Spike strap-spearshaped. Husks almost smooth. HUDS. and pointed. ST.

Curt. ii. 17.—Schreb. 19. 2.—Fl. dan. 697.—Ger. em. 11. 2.—

Barr. 699. 2.—Buxb. v. 40. 1.—J. B. ii. 473. 1.—Ger. 9. 4;

repr. in C. B. th. 53. 5; and cop. by Park. 1169. 8.—Spike, &c.

Leers 2. 5.—Mont. 51.—Scheuch. 2. 6. A. B. (Not Barr.

699. 1, as Lightf.; at least I know of no descr. of it's ever having a

bulbous root; nor 14. 1. 2; 124. 2. as the German. syn.; nor

Park. 1168. 7. as Ray; nor Ger. em. 10. 2. as Curt.; nor Fl.

dan. 228, as is evident from the 2 blafs. in 1 empal.—H. ex. viii.

4. row 2. 8. is the *A. pratensis*.)

β Spike shorter. Awns bowed back. RAY Syn. p. 397. n. 2. *smaller*

Corn-fields and road-sides. A. LEERS. P. LINN. July. Aug.

ALOPECU'RUS *bulbosus*. Straw upright. Spike *bulbous*
cylindrical. Root bulbous.—

Barr. 699. 1.—C. B. th. 20.—Ray 20. 2. Awns too straight and

stiff, giving it the habit of a *Hordeum*, in consequence of which Lin-

næus has also referred it to the *H. nodosum*.—Anders. bad.—

Spike, Mont. 54. (Barr. 680. 1. and 2. not a Grass.)

Straw slender, about a foot high; bent at the lower joint. Spike slender, 1 inch long. Leaves 1 or 1½ inch long. Root bulbous, emitting many fibres and stems. RAY.

Florets longer, narrower, and much less hairy, than those of the *A. geniculatus*. ST.

Straw

Straw sometimes slightly kneed at the lower joint. Awns stiffer, and the *Valves* of the *empal.* shorter and more pointed than in the *A. geniculatus*. Mr. WOODWARD.

Alopecurus geniculatus bulbosus. HUDS.

In the first field, next the road, before you go into Northfleet. HUDS. [In a salt-marsh near Yarmouth. Mr. WOODWARD.]

P. June. July.

float

ALOPECU'RUS *genicula'tus*. Straw ascending. Spike cylindrical. Husks diverging at the point; hairy. HUDS. blunt. ST.

Spike-bearing straw bent as if broken. Bloss. without awns. LINN. *sys. veg.* (Awns sometimes so concealed within the *Empal.* as to make the florets appear awnless. ST. from SCHEUCH. p. 72. l. 1.)

long-awned

α Awns longer than the empalement. LINN. *fl. lapp.* ST.

Fl. dan. 861, (confirmed by Mr. Woodward.)—*H. ox.* viii. 4. row 2. 15.—*Ger. em.* 14. 2; repr. in *C. B. th.* 42, and cop. by *Park.* 1275. 7.—Spike, &c. *Leers* 2. 7.—*Scheuch.* 2. 6. *C. D. E.* —(*Fl. dan.* 564, is an *Agrostis*, as Muller has made it, and as is evident from the bloss. with 2 valves.)

Empal. Valves oblong, blunt; the keels and sides covered with soft hairs lying flat. ST.

Spiked Float-grafs. *Spiked Water-grafs.*

Pools; wet vallies and meadows, and also on very dry hills. LINN. in which last situation its straw is still ascending, and its awns are as long again as the empalement. ST.

short-awned

β Awns as long as the empalement. LINN. *fl. lapp.*

Awn, from a little below the middle of the back, rising about 1-3d of its length beyond the empalement, but sometimes not rising up to it. *Empalement* 2-3ds of a line long. ST.

Tab. ic. 217; *Tab. hist. i.* 512.—I have not seen these figures.

Whole plant paler. Flowers whitish. Spike slenderer and shorter. RAY.

bulbous

γ Roots bulbous. Mr. WOODWARD.

Merely a var. of the *geniculatus*, and not the *bulbosus*. HUDS. *fl. ang.* Ed. I. or *A. geniculat. bulbosus*. Ed. II.—On walls. Mr. WOODWARD.

Cows, Horses, Sheep, and Goats eat it. Swine refuse it.

bearded

ALOPECU'RUS *monspeliensis*. Panicle spike-like. Empalements rough. Blossoms with awns.—

H. ox. viii. 4. row 2. 3.—*Park.* 1166. 3; (and 1168. 3?)—*Panicle*, *Barr.* 115. 2.

Resembles the *A. paniceus*, but 3 times as large. *Empal.* with a tubercle at the bottom. *Bloss.* very short, shorter than the awn. *Straw* and leaves stiff. *Husks* rough, but smooth at the edge; both valves awned. LINN.

Marshes and wet pastures.

A. June. July.

A LOPECU'RUS *paniceus*. Panicle spike-like. *hairy*
Empalement set with soft hairs. Blossoms with awns.—

Schreb. 20. 3; confirmed by the *Germ. syn.* but referred by *Linn.* to the *A. monsp.*—*Barr.* 115. 1.—*Buxb.* v. 66. 1.—*Park.* 1164.

4?—(*Lob. adv.* 17. 1; is the *Lagurus ovatus*, *Ger. prov. and Fl. dan.* 861, is the *Al. geniculatus*.)

This species very much resembles the *A. monspeliensis*, but the whole plant is soft, and only 5 or 6 inches high. *Husks* downy; woolly at the edges. *Awns* of the *bloss.* shorter than those of the empalement. LINN.

Bloss. Valves 2, as short again as the empalement; hollow, smooth; the outer 3 times as broad as the other; roundish-egg-shaped, blunt, with 4 teeth; an awn longer than the valve, issuing from below the point. *Inner valve* egg-spear-shaped, pointed; with 2 teeth. *Empal.* ending at the base in a hard tubercle. ST.

Dry soil.

A. July.

83. PHLE'UM. Timothy-grafs.

Pl. II. fig. 9.

EMPAL. *Husk* 2 valves, including a single floret: husk oblong, strap-shaped, compressed; open at the end, and furnished with 2 spit-points. *Valves* equal, straight, concave, compressed; one embracing the other; lopped; with a sharp point at the end of the keel.

BLOSS. 2 valves, shorter than the empalement: *outer Valve* embracing the *inner Valve*, which is smaller.

CHIVES. *Threads* 3; hair-like; longer than the empalement. *Tips* oblong, forked at each end.

POINT. *Seed-bud* roundish. *Shafts* 2; hair-like; reflected. *Summits* downy.

S. VESS. None. The *empal.* and the *bloss.* inclosing the seed.

SEED. Single; roundish.

ESS. CHAR. *Empal.* 2 valves, sitting, strap-shaped, lopped, with 2 spit-points at the end. *Bloss.* inclosed. LINN.

Empal. 2 valves. *Bloss.* 2 valves, membranaceous. ST.

OBS.

OBS. In the *Phl. arenarium* the empalement is spear-shaped and not lopped ; and must we confine the title of Phleum to such only as are spikéd ? ST.

sea

PHLE'UM *arena'rium*. Spike egg-shaped, fringed. Stem branching.—

Park. 1170. 4. is a good representation of the spike, though meant for the *Phl. prat. nodos.*—*Pluk.* 33. 8.—*Spike, Mont.* 74. good. (Not Barr. 717.)

Spikes scarcely rife quite out of the sheaths of the leaves. LINN.

Sheaths of the leaves wider than the straw, especially the upper. Spikes cylindrical, but tapering at the base and point, from $\frac{1}{2}$ to 1 inch long. *Empal. valves* tapering off to a point, not lopped, keel fringed from the middle to the point. *Bloss.* hairy. SCH. ST.

Straw, when fully grown, bare from 2 to 3 inches above the upper leaf.—*Empal.* Outer edge fringed towards the top. *Bloss.* membranaceous, valves marked with fine teeth at the end. Not cartilaginous, nor any appearance of a double blossom, as in the *Phalaris*. ST.

Phalaris arenaria. HUDS. which see.

branched

PHLE'UM *panicula'tum*. Panicle cylindrical, spike-like. Husks naked. Straw sometimes branched. HUDS.

Barr. 28. 2. and not the *Phl. pratense* as his editor and Schreber suppose.—*Barr.* 54, a var.? confirmed by Haller.—*Ger.* 10. 1; repr. in *C. B. th.* 51, and cop. by *J. B.* ii. 471. 3.—*Spike; Mont.* 53.—(Not *H. ox.* viii. 4. row 3. 2, as Hall. as is evident from the fringed keels of the single floret.—*Barr.* 21. 2. seems awned.)

Root fibrous. Straw a foot high, somewhat slanting ; cylindrical, smooth, knotted. Leaves several, alternate, upright, on leaf-stalks ; sword-shaped, pointed, stringy, rough. Leaf-stalk cylindrical, very long, sheathing, rough. Leaf-scale single ; within the leaf, sheathing, blunt, membranaceous. Panicle very long, bent to each side ; divisible into lobes. Husks tiled, tapering to a point ; bellying out upwards. Bloss. awnless. HUDS.

Straw 2 inches to half a foot high. Leaves in the smaller specimens rising above the straw. Panicles from 1 to $4\frac{1}{2}$ inches long, whitish green ; slightly tapering upwards : branches stiff, lying close. *Empal. Valves* tapering downwards, scarcely embracing each other ; obliquely lopped, inversely triangularly spear-shaped, (inverse deltoidæ) marked on the outside with 3 ribs ending in very short spit-points, nearly equal, the outermost rather smaller. ST.

Phalaris

Phalaris phleoides, LINN. according to HALL. POLLICH. and HUDS. ; but it is a different plant ; which see.

Phleum culmo recto, &c. HALL. n. 1531. ST.

Gram. typh. asper. prim. SCHEUCH. n. 61. ST.

Meadows below King's Weston, near Bristol. Newmarket Heath. [Gogmagog hills, Cambridge. Mr. WOODWARD. Bourn-bridge, Cambridgehire. Mr. CROWE.] P. Aug.

P H L E' U M *pratense*. Empalements strap-shaped, common fringed, lopped, awned. Awns short. SCHREB. Awns shorter than the empalement. ST. Spike cylindrical, very long. Keel of the husks fringed. HUDS.

α. *Phleum pratense*. Spike cylindrical, very long, fringed. Straw greatest upright.—LINN.

Schreb. 14. 1. 2.—C. B. pr. 10. th. 49. 1.—H. ox. viii. 4. row 3. 1 and 2.—J. B. ii. 472. 2.—Park. 1170. 1.—Spike, &c. Leers 3. 1.—Mus. rust. v. 1. 1.—Mont. 52.—(Synonyms of *P. paniculatum* also referred to by Linn. but the description of C. B. accords better with the *paniculatum*.)

Straw bulbous at the base. LEERS.

One Valve of the blofs. cloven, the other entire. SCOP.

Spike sometimes 5 inches long. W.

Timothy-grass.—Herd-grass in N. America.—In pastures, common. P. July.

Cows, Horses, and Goats eat it. Swine refuse it.—Account of it in *Mus. rust.*—DR. PULTNEY says, that notwithstanding the character which this grass acquired from Le Rocques recommendation, Sheep dislike it ; neither are Cows or Horses fond of it.—But LEERS says, it affords an excellent pasture for Horses.

γ. *P. prat. nodosum*. SCHREB. and HUDS.

bulbous

Phleum nodosum. Spike cylindrical. Straw ascending. Leaves oblique. Root bearing bulbs. LINN.

Schreb. 14. 3. 4. and 5.—Barr. 22. 1 ; cop. by Pet. ii. gram. ital. 4. 1.—Fl. dan. 380.—Barr. 53 ; cop. by Pet. ib. 2.—H. ox. viii. 4. row 3. 3. and row 2. 21.—Barr. 22. 2, cop. by Pet. ib. 3. 16. J. B. ii. 472. 1.—Ger. 10. 2 ; repr. in C. B. th. 52, and cop. by Park. 1170. 3, and J. B. ii. 472. 3.—Dod. 562 ; repr. in Lob. obs. 10. 1.—Ger. em. 12 ; uppermost fig. and cop. by Park. 1170. 2.—and 1170. 4 ?—Spike, &c. Leers 3. 2. (C. B. th. 20. is the *Alopecurus genic. bulbos.* Spike soft, awned.)

Very much resembles the *P. prat.* but the Root bulbous, (as is C. B.'s fig. of the *P. prat.*) ST.

Straw covered by the sheaths of the leaves. Spike smooth. Tips white. Leaves pointing from opposite sides of the straw ; smooth ; except the edges, which are rough. LINN.

Root composed of several bulbs, connected together. *Spike* rougher, an inch and half long ; in a very dry soil only half an inch, and oval. *Florets* twice as small ; the lowermost barren and shrivelling. *Empal.* the sharp points, when the seed is ripe, more bent in. Being transplanted into rich land, it became, the year following, the true *Phleum pratense*. LEERS.

Cultivated in a garden, the *Root* becomes fibrous, and the *Straw* upright. HUDS.

Florets sometimes with 4 shafts and 4 downy summits. WITH.

Barren pastures, and road-sides, common. P. July. Aug.

mountain

PHLE'UM *alpi'num*. Spike egg-cylindrical.—black. LINN.

Fl. dan. 213.—Scheuch. pr. 3. 1.

Empal. Valves $1\frac{1}{2}$ line long. Awns 1 line long. SCHEUCH. and fig. of *Fl. dan.* *Phleum pratense*.

Said to be found on Craigneulic, above Killin. LIGHTF. P.

bearded

PHLE'UM *crini'tum*. *Empal.* strap-shaped, a little bulging at the base ; rough with hair ; awned. Awns hair-like ; very long. SCHREB. longer than the *empal.* ST.

Straw nearly upright. Panicle compact, spike-like. Husks awned. Awns very long. HUDS.

Cultivation hath shewn that Messrs. GERARD and GOUAN have very properly considered the following as only varieties. SCHREB.

Alopecurus aristatus. GOUAN. HUDS.

Blofs. 2 valves ; one broader than the other, and sending out a short awn. GER. PROV. and ST.

Husks strap-shaped, diverging at the points. *Awns* terminating, very long. *Blofs.* very small ; awns from the back ; short. HUDS.

Blofs. valves 2 ; outer awned and blunt, with 5 teeth. *Awn* expanding, straight ; an extension of the middlemost tooth, generally longer than the blossom, and often extending beyond the valves of the empalement ; in examining it readily separating, and often left behind within the valve of the empalement ; whence, it is probable, the accurate Scheuchzer was led to describe it as *awnless*. ST.

1. *Alopecurus monspeliensis*, which see.

2. *Alopecurus paniceus*, which see.

80. PHAL'ARIS. Canary.

Pl. II. fig. 10.

EMPAL. *Husk* 2 valves, including a single floret ; compressed ; blunt. *Valves* boat-shaped, compressed, keeled, more blunt upwards ; the edges straight, parallel, approaching.

BLOSS. *Valves* 2, smaller than the empalement. *Outer Valve* oblong ; edges rolled in ; tapering to a point. *Inner Valve* smaller.

CHIVES. *Threads* 3, hair-like, shorter than the empalement. *Tips* oblong.

POINT. *Seed-bud* roundish. *Shafts* 2 ; hair-like. *Summits* woolly.

S. VESS. The blossom closely surrounds the seed, like a shell, without opening.

SEED. Single ; covered ; smooth ; round, but tapering towards each end.

ESS. CHAR. *Empal.* 2 valves, keeled, equal in length, inclosing the blossom.

PHAL'ARIS *canariensis*. Panicle egg-shaped, spike-like. Husks bellying, hairy. Keel smooth. HUDS.

Panicle somewhat egg-shaped, spike-like. Husks keeled. LINN.

Ludw. 117.—*Schreb.* 10. 2.—*Math.* 919.—*Trag.* 669.—*Ger.*

80. 1 ; repr. in *C. B. th.* 534.—*Dod.* 510 ; repr. by *Lob. obs.*

26. 1 ; and *Ger. em.* 86, and cop. by *Park.* 1163. 1.—*J. B.* ii.

442. 2.—*H. ox.* viii. 3. row 3. 1.—*Spike, Mont.* 44.—*Fruc-*

tif. Leers 7. 3. * (*Barr.* 9. 2. is the *Phalaris bulbosa*.)

Bloss. double, gristly, glossy ; valves embracing, keeled : the outer adhering to the inner and separating along with it from the empalement ; valves nearly equal, parallel to, and embracing those of the inner ; awl-strap-shaped, 3 times as narrow and almost as short again, nearly smooth, membranaceous at the edge : the inner as in the generic descript. and hairy.—The outer is noticed in this species by *Scheuch.* who calls it a 4 husked follicle, but I have found it equally present, though often very minute, in the *bulbosa paradoxa* and *arundinacea*, though not in the *erucæformis*, which *LINN.* observes has a near affinity to the *Paspalum*. ST.

This is a native of the Canary islands, but now propagates itself in Hesse. LINN.

Valves of the empal. with 2 green ribs on each side, and much larger than the blossom. Within these are 2 other small, white, skinny valves, not more than half the length of the blossom. WITH.

Road-sides and uncultivated ground. [New's-Wood, adjoining to Malvern, Worcesterfh. MR. BALLARD.] A. June.—Sept.

It is often cultivated for the sake of the seeds, which are found to be the best food for the Canary, and other small birds. It nourishes the *Coccus phalaridis*.

sea

PHAL'ARIS *arena'ria*. Panicle oblong-spearshaped; spike-like. Husks spear-shaped, the keel fringed. Huns. confirmed by Mr. WOODWARD.—

Phleum arenarium. LINN. which see.

cat's-tail

PHAL'ARIS *phleoi'des*. Panicle cylindrical, spike-like, smooth; here and there viviparous.—

Fl. dan. 531.—*Viviparous floret*, Scheuch.—2. 5. C.

Spike pale, divisible into lobes. It so exactly resembles some of the *Phleums*, that it may be easily mistaken for one of that genus; but when you examine the spike and press it with your fingers, it separates, and proves to be a panicle; and the *Husks* are not notched at the end. *Flowers* different from those of the *Phleum*. It is a kind of intermediate plant between the *Phalaris*, *Phleum*, and *Alopecurus*. LINN. ST. A different plant from the *Phleum paniculatum* of Mr. Hudson. MR. WOODWARD. ST. Panicle $2\frac{1}{2}$ inches long. *Flowers* have the habit of those of the *Phalaris*; none viviparous in the specimen sent by Mr. Woodward; from 1 to $1\frac{1}{4}$ line long; compressed; bowed gently inwards with their sides facing the spike-stalk. *Empal. Valves* oblong-spear-shaped, keeled, marked with 3 ribs; edges membranaceous, which, on the side facing the spike-stalk, are separate to the base, and on the outer side lapping over; keel roughish above, and ending in short, rough, awn-like spit-points; the outer just sensibly shorter, narrower, and taper-pointed; the inner between lopped and tapering. *Bloss.* half as long as the empalement, betwixt gristly and membranaceous; awnless; not ribbed; sprinkled with numerous minute dots and a few hairs. A stiff awn-like thread rises from the base of the inner valve, 1-3d of its length, analogous to that of *Arundo arenaria*. ST. Never found any of the florets viviparous. MR. WOODWARD.

[First discovered in Gr. Brit. by Mr. WOODWARD and Mr. CROWE, near Swaffham, Norfolk, in 1780.] P. July.

Sheep and Goats eat it. Swine refuse it.

PHAL'ARIS *arundina'cea*. Panicle oblong, clus- *Reed*
tered. Husks egg-shaped. Keel rough. HUDS. Panicle
oblong, bellying, large. LINN.

Ger. em. 26. 2. β .—*H. ox.* viii. 6. 43. β . *ib.* 41.—*Fl. dan.* 259.
—*Park.* 1273. 2.—*Ger.* 24. β ; repr. in *C. B. th.* 37.—*J. B.*
ii. 476. 2. β .—*C. B. th.* 92, possibly a var.—Branch of the pa-
nicle, *Enc. Leers* 7. 3.—*Floret, Mont.* 59.—(*Ger.* 21. 12, repr.
in *C. B. th.* 94, and cop. by *Ger. em.* 8. 3, *Park.* 1181. 1, and
J. B. ii. 481. 1; and also *Lob. adv.* 3; are not the plant; and
Ger. 7. 2, repr. in *C. B. th.* is the *Poa aquatica*.)—Those
marked β are figures of a var. to be met with in our gardens, with
striped leaves, which indeed has not been found in a wild state in Gr.
Brit. but differs from the other only in colour.

Leaves broad, scored; panicle nearly egg-shaped. LINN.

Valves of the *empal.* with 2 ribs on each side, and not much
longer than the blossom. Valves of the *bloss.* hairy at the edges, and
furnished with a small, slender, hairy appendage on each side. WITH.

Outer valve of the blossom not rolled in. MR. HOLLEFEAR.
Haller calls it an *Arundo*; but in that genus the blossom is
single. ST.

Banks of rivers.

P. July. Aug.

It is used to thatch ricks or cottages, and lasts much longer than
straw. In the province of Scandia they mow it twice a year, and
their cattle eat it. LINN. It is of a hard texture, and cattle are
not fond of it. SCHREB.

Horses, Cows, Sheep, and Goats eat it. Swine refuse it.

β Leaves more of a sea-green. RAY *syn.* p. 400. n. 1.

sea-green

Sea-coast of Jersey, and near Lhanperis.

There is a cultivated variety of this in our gardens with beauti-
fully striped leaves. The stripes are generally green and white;
but sometimes they have a purplish cast. This is commonly called
Painted Lady-grass, or *Ladies Traces*.

85. MIL'IUM. Millet.

Pl. II. fig. 11.

EMPAL. *Husk* 2 valves inclosing a single floret. *Valves* egg-shaped, tapering to a point, nearly equal.

BLOSS. 2 valves, smaller than the empalement. *Valves* egg-shaped; 1 larger than the other.

CHIVES. *Threads* 3; hair-like; very short. *Tips* oblong.

POINT. *Seedbud* roundish. *Shafts* 2; hair-like. *Summits* pencil-shaped.

S. VESS. The blossom incloses the seed, which is very smooth.

SEED. Single, covered, roundish.

ESS. CHAR. *Empal.* 2 valves, containing 1 floret. *Bloss.* very short. *Summits* pencil-shaped.

OBS. Blossom in the *M. effusum* nearly as long as the empalement.

ST.

Panick

MIL'IUM *lendig'erum*. Panicle spike-like. Flowers with awns.—

Schreb. 23.3.—Pluk. 33. 6.—Gouan. hort. 1. 2. p. 38 *bad*, (*H. ox.* viii. 3. 12. is not the plant.)—Branch of the panicle, Scheuch. 3. 11. C.

Straw oblique. Panicle spear-shaped. *Husks* bellying out at the base; *valves* unequal. *Bloss.* very short, egg-shaped, awned; *awn* from below the point, as long as the husk. HUDS. *Bloss.* valves 2, unequal, the smaller almost imperceptible without a glass. Mr. WOODWARD. *Seed* contained in the bellying part of the empalement. GOUAN.

Empal. valves egg-spear-shaped, below compressed and glossy, above keeled, keel rough. *Bloss.* membranaceous, hairy at the base and sides; outer *valve* oval, generally awned, hollow, slightly cloven at the end, twice as broad as the other; inner egg-spear-shaped, as long as the outer, thinner, notched at the end, marked longitudinally with 2 lines, one terminating in each tooth. *Awn* generally even with the empal. but sometimes longer, bent aside obliquely about half-way up, inserted at the back of the outer valve at the bottom of the cleft yellowish brown; above white. *Seed* oval, flattened, smooth, amber coloured. In its structure it is an *Avena*, and totally different from the *Milium effusum*. ST.

Alopecurus ventricosus. HUDS.

Meadows and pastures. Isle of Sheepey plentifully. [Cornfields, Gillingham, Norfolk. Mr. WOODWARD.]

A. Aug. Sept.

MIL'IUM

MIL'IUM *effusum*. Flowers without awns, in scattered panicles.—

Curt. iv. 43.—*H. ox.* viii. 5. 10.—*Ger.* 6. 1, repr. in *C. B. th.* 141, and cop. by *Park.* 1153. 1.—Portion of the panicle, *Leers* 8. 7.—*Scheuch.* 3. 6.—*Floret.* *Mont.* 61. (*Dod.* 561. 2, cop. in *Ger. em.* 6. 1, seems to be a different plant.)

Bloss. somewhat cartilaginous, glossy. **HALL.** **ST.** like that of the *Phal. arund.* but no hairs at the base, and not keeled; just shorter than the empalement. **ST.**

Millet Grass. Wet woods, common. [Frequent in Norfolk. **Mr. WOODWARD.**] A. June. July.

Horses, Cows, Sheep, and Goats eat it.

86. AGRO'STIS. Bent.

Pl. II. fig. 12.

EMPAL. *Husk* 2 valves, inclosing 1 floret, tapering to a point, somewhat smaller than the blossom.

BLOSS. 2 valves, tapering to a point, one Valve larger than the other.

CHIVES. *Threads* three; hair-like; longer than the bloss. *Tips* forked.

POINT. *Seedbud* roundish. *Shafts* 2; reflected, woolly. *Summits* set lengthways with stiff hairs.

S. VESS. The Blossom adheres to the seed without opening.

SEED. Single; cylindrical, but tapering towards each end.

ESS. CHAR. *Empal.* 2 valves, containing 1 floret; somewhat smaller than the blossom. *Summits* longitudinally rough with hairs. **LINN.**

Empal. 2 equal, pointed valves, containing 1 floret. *Bloss.* 2 unequal valves smaller than the empal. *Summits* feathered.

HUDS. **ST.**

OBS. The *A. capillaris* has only one petal, and therefore ought rather to be considered as a species of *Alopecurus*. **SCOP.**

This is an artificial genus. *A. spicaveriti*, *interrupta*, *miliacea*, and *bromoides*, have the structure of *Bromus*; *canina* and *arundinacea* of *Avena*. The last *Hall.* *Scop.* and *Wigg.* have referred to *Arundo*, but not to mention the bent awn, the hairiness at the base of the bloss. is much less than in several of the species of *Avena*. **ST.**

* *With Awns.*

* The *A. stolonifera*, *alba*, and *pumila* are sometimes awned. **ST.**

filky

AGROSTIS spicaven'ti. Awn straight, stiff, very long, fixed to the outward petal. Panicle expanding. LINN. Awn inferted just below the point of the petal. ST.

Fl. dan. 853.—(*H. ox.* viii. 5. row. 2. 3. ST.) *J. B.* ii. 462.

1.—*Ger.* 5. 2, repr. in *C. B. th.* 35, &c. is the *Aira cæsp.* though *C. B.'s* descr. is undoubtedly that of the *Agrost. Spicav.*—Branch of the panicle, *Leers* 4. 1. *Scheuch* 3. 10. (*Mont.* 62 is not awned.)

Haller calls it an *Avena*, but improperly, according to his own definition of that genus. See obs. on the Genus. *Emp.* valves roughish towards the points. Grows amongst corn, and is equally liable to the smutt. ST.

Sandy fields, very frequent.

A. June.—Aug.

Horses and Goats eat it. Sheep refuse it.

brown

AGROSTIS canina. Empalements elongated. Awn from the back of the petal, bowed back. Straws trailing, somewhat branched. LINN. Panicle expanding. Blossom bare, one of the valves twice as long as the other, awned. Awn from the back straightish. HUDS.*

Branch of the panicle, *Leers* 4. 2. (*Fl. dan.* 161. and *Scheuch.* 3. 9. *C.* is the *A. stolonifera* with awns.)

Panicle mostly elongated; its branches compact; of a shining purplish hue; more observable at a distance than quite close. *Empal.* coloured. Awn bristle-shaped, white, twice the length of the floret, straight, marked in the middle with a brown knot. Flowers roughish. LINN. Panicle compact; when in flower spreading, of a violet purple, shining; at length pale. *Empal.* outer valve roughish towards the point. *Bloss.* back rough. Awn from the middle of the back twisted, white, straight, as long again as the blossom, at length bent back at a brown knot. (See X in the fig.) *Bloss.* inner valve often wanting, and when present exceedingly minute. LEERS. If the awn is uniformly marked with a brown knot I have never seen the *A. canina*, and from Mr. Hudson's new character it should seem that his *canina* is a different plant from that of Leers and Linn. ST. Awns sometimes wanting. CURT. ST.

* Mr. Hudson comprehends under this new character the following as varieties.

β Root-leaves thread-shaped. Stem-leaves flat. Straw nearly upright. HUDS.

Agrostis alpina var. 1. which see.

γ Leaves bristle-shaped, stiff, sea-green. Straw upright. HUDS.

Agrostis alpina var. 2. which see.

Obs. In β however the panicle is close, the blossom hairy at the base, inner valve exceedingly minute, and the awn bent aside at an angle, ST.

Gram.

(*Gram. paniculat. supin. ad. Sc. SCHEUCH. p. 141; and Agrostis canina, SCHREB. spicileg. POLLICH. and HUDS. appear to me to be the awned var. of the A. stolonifera. St.)**

Meadows, pastures, and moistish heaths.

P. July. Aug.

Cows and Horses eat it.

AGROSTIS alpina. Leaves bristle-shaped. *Straw mountain* upright. Awn bent at an angle, inserted just above the base of the blossom. Blossom hairy at the base. **St.†**

Scheuch. pr. 4. 1.—Florets, Scheuch. 3. 9. A. B. (Fl. dan. 161. appears to be the A. canina. Leaves strap-shaped. Flowers not a line long. Awn from the middle of the back. Blofs. no tuft of hairs at the base.)

1. Plant rough all over from a number of minute points directed rough upwards. Panicle close, even when in flower, 2 inches long. *Empal. valves* keeled; the outer $\frac{1}{2}$ to nearly 1 2-3rds line long; the inner 1 $\frac{1}{2}$ long. Blofs. 1 line long: outer valve lopped and torn at the end, a tuft of hair at the base on the inner side; inner valve exceedingly minute, the length of the seed-bud, egg-shaped, pointed. Awn nearly twice as long as the blossom, extending from $\frac{1}{4}$ to $\frac{1}{2}$ line beyond the empalement; below the flexure twisted. **St.**

Dryish heaths. **HUDS.**

Gram. parv. paniculat. Sc. SCHEUCH. p. 140.

Avena monantha paniculata, gluma, Sc. HALL. hist. n. 1477.

Agrostis alpina. Scop. carn. Ed. 2. n. 86, and Germ. fynon. 1. 193. Agrostis canina. B. HUDS.

2. Leaves smooth. Panicle spreading. *From SCHEUCH. Panicle* smooth 1—1 $\frac{1}{2}$ inch. Flowers very thinly scattered, 1 line long, or somewhat more. Awn extending 1—1 $\frac{1}{2}$ line beyond the empal. **SCHEUCH.**

Gram. paniculat. capillac. Sc. SCHEUCH. p. 141. n. 2.

Avena monantha paniculata, fol. Sc. HALL. hist. n. 1478.

Agrostis canina. HUDS.

* In no genus of the Grasses are the species so ill ascertained as in the *Agrostis*, and no wonder, when a circumstance which I have shewn to be so inconsistent, as the absence or presence of the awn of the blossom, has been fixed upon as a primary mark of distinction. To supply this loss I would recommend that particular attention be paid to the open or closed state in which the *valves of the empalement* are found immediately after the shedding of the dust and the ripening of the seed, and also whether the *flowers* are scattered or clustered, (sparse or congesti.) **St.**

† **AGROSTIS alpina**, foliis setaceis, culmo erecto; arista recurva, basi corollæ inserta; corolla basi pilosa. **St.**

This and also var. 1. being transplanted into a moistish soil, became the *A. canina*. HUDS. But I cannot perceive any appearance of the brown knot described by Linn. and figured by Leers in the *A. canina*.—Haller describes them both, and also the *A. canina* as species of *AVENA*, with which genus they correspond in habit as well as in structure. ST.

Dry mountainous heaths. Hall Down near Exeter, and other places in Devonshire. HUDS.

Short awned

AGRO'STIS vinealis, Empalements coloured. Awn from the back of the blossom, almost as long as the empalement. Straws ascending. SCHREB. Awn nearly straight, from below the middle of the back. ST.

Scheuch. 3. 9. *D. E. awns much longer than described.*

Differs from the *A. canina* in having flowers twice as long. Awns in general not longer than the empalement, but sometimes they project as much as a line beyond. Flowers sometimes awnless. It varies in the breadth of its leaves, the height of the straw, and the shape of its panicle. The size of its flowers is the only circumstance that is constant. Approaches very near to the *Agrostis capillaris*. SCHREB. Panicle close, from 3 to 5 inches long. Empal. outer valve $1\frac{1}{4}$ line long, just perceptibly longer than the inner; lower part of the back brownish purple, edges and upper part yellowish brown; keels beset above with rough points. Bloss. just short of 1 line in length, beset with exceedingly minute rough points; marked with 4 ribs, and a few hairs at the base. Awn hair-like; mostly straight, white, $\frac{1}{2}$ line long, and scarcely even with the point of the blossom, but more rarely 1 line long, yellowish, and just sensibly bent aside at the base, sometimes inserted $\frac{1}{2}$ way between the middle and the base. ST.

Gramen canin. vineale. SCHEUCH. gram. 143. n. 1.

Avena monantha, panicula sparsa, &c. HALL. hist. n. 1481.

Agrostis vinealis. SCHREB. gram. ii. p. 37, and spicileg. p. 47.

Germ. synon. i. p. 206.

Specimens from Dr. Withering's herbarium, gathered in the N. of England, place unknown. ST.

** Without Awns.

creeping

AGRO'STIS stolonifera. Without awns. Lesser branches of the panicle expanding. Straws creeping. Empalements equal.—

Ger. em. 26. 1. cop. by Park. 1174. 4. and J. B. ii. 480. 1.—

Ger. 24. 1. repr. in C. B. 13.—Part of the panicle, Leers 4. 6.

(Fl. dan. 564, can hardly be a var. of this, as the valves of the bloss.

blofs. are nearly equal.—*J. B. ii. 459. 1. is a var. according to Haller.—H. ox. viii. 2. 7. not the plant.)*

Panicle scattered, about 3 inches long. *Empal.* short of a line in length. *Blofs.* somewhat shorter than the empalement. SCHEUCH. ST. *Panicle* straddling, with but few flowers. *Fruit-stalks* almost finer than a hair, horizontal, straight. *Pedicles* waved, straddling. *Flowers* the smallest of our species, whitish. *Empal. valves* nearly equal. LEERS. ST. *Panicle* at first contracted. POLLICH. *Blofs. outer valve* sometimes awned. *Awn* from above the base, where even with the point of the empalement bent aside, generally twice as long as the blossom, whitish, but in some of the flowers very short, and scarcely discernable. In this state it is described by authors under the following titles:

Gram. paniculat. supin. ad. Sc. Scheuch. p. 141, which LINN. has referred to the A. canina.

Agrostis canina. POLLICH. ST.

Straw shorter than the root-leaves. *Sheath* of the upper leaf bellying out. *Flowers* roughish. LINN. *Straws* from a span to a foot high. *Straw-leaves* rough, with points directed upwards. *Empal.* short of a line in length. SCHEUCH. ST.

Panicle loose, straddling, with but few flowers. *Fruit-stalks* hair-like, horizontal, straight. *Pedicles* short, waved, straddling. LEERS. ST.

Is it a var. of the *A. alba*, or of the *capillaris*? LEERS.

A. polymorpha stolonifera. HUDS.

Moistish meadows and pastures, but not common.

Cows, Horses, and Sheep eat it.

P. Aug.

α *Leaves* long and very narrow.

narrowleaved

A. polymorpha ε. HUDS.

Shady thickets.

June. July.

β *Leaves* narrow, but shorter than the former. *Panicle* much fine spread. *Flowers* very small.

A. Polymorpha β. HUDS.

Greenwich Park.

P. July.

AGROSTIS *capilla'ris.* *Panicle* very slender. *Empalements* awl-shaped, equal; a little rough with hair; coloured. Blossoms without awns.—

Mus. rust. iv. 2. 10. a panicle out of blossom.—Fl. dan. 163.—

Stillingf. 3. panicle, out of blossom.—Branch of the Panicle, Leers

4. 3. (but is not this the A. canina without awns?) Scheuch 3. 5.

B.—Floret, Mont. 64. (H. ox. viii. 5. row. 2. 3. is agrost. spicaventi.)

Fruit-stalks

Fruit-stalks very fine. *No suckers.* LINN. *Tips* yellow. *Husks* of the empal. light red, with white edges. MÆNCH.

Bloss. inner valve very minute. MR. HOLLEFEAR. More than twice as short as the outer. ST. Sometimes awned. CURT.

A. polymorpha capillaris. HUDS.

Pastures and road sides, very common.

P. Aug.

wood

AGRO'STIS *fylvatica*. Panicle compact; without awns. Bloss. equal to the empalement; shorter before flowering; afterwards twice as long. HUDS. Panicle compact; without awns. Empalements equal; shorter than the blossom before flowering; but afterwards twice as long. LINN.

(*Fl. Dan.* 701. is awned.)

Approaches very nearly to the *A. stolonifera* and *capillaris*. Panicle expanding, purplish brown. Flowers spear-shaped, some scarcely a line long, others more than 3 lines in length. In the smaller ones the empalement is longer than the blossom, in the larger it is half as short again. POLLICH.

Agrostis polymorpha fylvatica. HUDS.

Ray syn. 404. n. 13. is referred by Linn. to this species and also to the *arundinacea*. ST.

Moistish woods. Bishops Wood near Hampstead. P. Aug.

marsh

AGRO'STIS *alba*. Panicle loose. Empal. equal; without awns. Straw creeping.—

H. ox. viii. 6. row. 1. 27.—Lower part of the panicle, LEERS 4.

5. (*Vaill.* 17. 5. is an aira.)

Stem striking root at the joints.

Flowers roughish. LINN.

Tips violet colour. Husks of the empal. green. MÆNCH.

Panicle-branches closely beset with flowers immediately from their base. SCHEUCH. POLLICH. ST. Straws 2 to 3 feet high. Panicle 6 inches long; between contracted and open. Fruit-stalks numerous, rather upright. Pedicles very short, straddling. Florets very numerous, closely crowded round the base of the fruit-stalks, giving the appearance of whorls. LEERS. ST. Sometimes awned. CURT. Empal. valves while in bloss. 1 line long, and somewhat longer than

Obs. POLLICH proposes to combine the 5 preceding species under the common name of *canina*; and HUDSON has actually disposed the 4 last as varieties of what he thus characterizes, and calls

AGRO'STIS *polymorpha*. Panicle expanding. Keel of the empalement rough. Blossom awnless, one of the valves very short. HUDS. ST.

than the blossom; when out of blossom $1\frac{1}{4}$ long and half as long again as the blossom; the outermost just perceptibly longer. *Bloss.* 2-3ds of a line long; *outer valve* sometimes awned. *Awn* hair-like, white, straight, from below the point of the valve, and just rising beyond it. ST.

A var. of the *capillaris*. HALL and LEERS.

Panicle coarser and thicker; *leaves* larger and firmer; *flowers* larger and thicker, greener, and with a paler tinge of purple than those of the *A. stolonifera* and *capillaris*. POLLICH. ST.

Gram. alpin. panicula, &c. SCHEUCH. p. 131. ST.

Agrostis polymorpha palustris. HUDS.

1. Panicle brown. PET. conc. n. 118.

2. Panicle green. lb. 119.

Ditches and marshes frequent.

brown

green

P. July.

AGROSTIS *pumila*. Panicle awnless, pointing *dwarf* one way. Straws upright; in bundles.—

Lightf. ii. frontispiece.

Roots numerous. *Straws* smooth; 2 inches high, leafy. *Leaves* like those from the roots, a little turned in at the edges: the sheaths scored. Panicle greatly expanded: mostly pointing one way. *Flowers* coloured, awnless, taper-pointed. *Seeds* rather large. It grows promiscuously with the *A. stolonifera*, but differs from that in being only half as large, in its panicle being less upright and pointing more in one direction: it grows likewise more matted together. *Little fruit-stalks* bent different ways, but not waved. LINN.

Straws several from 1 root, from $1\frac{1}{2}$ to 3 inches high. *Leaves* from $\frac{1}{2}$ to 1 line broad. *Flowers* generally purplish brown. *Empal.* keel rough SCHEUCH. ST. *Straws* upright, scarcely bowed at the base. *Leaves* downwards rough. *Flowers* bellying, somewhat more than $\frac{1}{2}$ line long. POLLICH. ST. *Straw* sometimes only 1 inch high. *Empal. valves* from 2-3rds to $\frac{3}{4}$ line long, oblong-spear-shaped, pointed, the outer just perceptibly longer than the inner. *Bloss. valves* 2, the *outer valve* $\frac{1}{2}$ line long, sometimes awned, and when this is the case generally all the flowers are awned. *Awn* from below the middle, extending beyond the point of the valve, towards the end slightly bowed aside. *Seed-bud* in all the specimens examined diseased, as large as the blossom, and full of a chocolate coloured powder. ST.

A. polymorpha pumila. HUDS.

[Yarmouth Denes. Mr. Woodward.]

P.

AGROSTIS *minima*. Panicle thread-shaped; with- *small* out awns. LINN. or rather bunch spike-like. ST.

H. ex.

TRIANDRIA DIGYNIA.

H. ox. viii. 2. row. 3. 10.—*C. B. th.* 26.—*J. B.* ii. 465. 4.—
Bunch. Scheuch. 1. 7. *I.* (*H. ox.* viii. 5. row. 3. 16, is a different plant.)

Straw slender, and very short. It flowers in the spring. LINN.

Straw thread-shaped, often twisted as the awn of the *avena*. *Empal.* valves lopped at the end. *Bloss.* a small flock-like substance, hairy, and separable into several bundles of fine white threads; much shorter than the empalement. ST.

Wales. Discovered by Stillingfleet.

A. July.

87. A' I R A. Hairgrafs.

Pl. II. fig. 15.

EMPAL. *Husk* 2 valves, containing 2 florets. *Valves* betwixt egg and spear-shaped, equal, sharp.

BLOSS. 2 valves, resembling those of the empalement. No rudiment of a flower betwixt the florets.

CHIVES. *Threads* three; hair-like; as long as the blossom. *Tips* oblong; forked at each end.

POINT. *Seed-bud* egg-shaped. *Shafts* 2; bristly; expanding. *Summits* downy.

S. VESS. None. The blossom incloses and adheres to the seed.

Seed. Nearly egg-shaped; covered.

ESS. CHAR. *Empal* 2 valves, containing 2 florets; without the rudiment of a third between them.

OBS. The number of florets not constant. REICH.

This is an artificial genus; those without awns have the structure of *Poa*, and those with awns that of *AVENA*. ST.

Chermes graminis is founded on the different species. LINN.

* Without Awns.

water

A' I R A *aquat'ica*. Panicle expanding. Florets without awns, smooth, longer than the empalement. Leaves flat.—

Curt. n. 10. fasc. i.—*Vaill.* 17. 7. diminished. Leaves too pointed. —*Floret, Mont.* 60.—(*Fl. dan.* 381. not the plant, or very ill done.)

Perhaps merely a var. of a *Poa*. LINN.

Empalement sometimes containing 3 blossoms. Leaves blunt. ST. *Straw* with two joints. SCOP.

β *Distans*. HUDS.

Poa distans, which see.

In dry situations the *empal.* sometimes contain 5 florets, the flower manyflowered
rets very remote. SCHREB.

Banks of rivers.

P. June. July.

It has a sweet taste. Cows are very fond of it. Horses and
Sheep eat it.

** With Awns.

A'IRA *cæspitosa*. Leaves flat. Panicle expanding. *turfy*
Petals woolly and awned at the base. Awn straight,
short.—

H. ox. viii. 5. row. 3. 17. Leaves well done. Panicle unexpanded.
(*C. B's. descr. of the A. cæsp. transcribed.*)—*H. ox. ib. row. 2.*
1. Panicle half expanded. Leaves flaccid instead of stiff. (Descr.
a new one of the A. cæsp.)—Ger. 5. 1. repr. in C. B. th. 34. 2.
(his descr. that of the agrost. spicav.) and cop. by Park. 1158. 2.
Ger. em. 5. 1. Panicle expanded; its habit tolerably expressed.
Leaves as the 2nd syn. of the H. ox. Ger. 5. 2. repr. in C. B. th.
35. (descr. that of the aira cæsp.) cop. by Park. 1158. 3.—Dod.
561. 1. repr. in Ger. em. 5. 2. cop. by J. B. ii. 461. 3. are the
plant before it comes into flower, when as Lightf. justly observes the
branches of the panicle lean all one way. Crowded branches of the
panicle represented as little spikes.—Fl. dan. 240. the separate pani-
cle, as well as the whole plant so diminished that the resemblance is
quite lost, though the magnified florets and section of the leaf shew it
to be the plant.—Branch of the panicle, &c. Leers 4. 8. Scheuch.
5. 2. and 3.

Awns straight, MÆNCH, LEERS, ST. not extending beyond the
blossom, MÆNCH.—just longer, LEERS.—generally shorter, ST.
Lower floret bare at the base; the upper hairy at the base, on a
fruit-stalk, which lengthening out raises the floret above the point of
the empalement. In moist meadows it sometimes produces 3 and
4 florets in an empalement. LEERS. *Empal. upper valve some-*
what longer and broader. Mr. HOLLEFEAR. Panicle large, of a
beautiful purple silky appearance. Mr. DICKENSON. Both florets
hairy at the base. Fruit-stalk a second proceeding from the base of the
upper floret; both hairy, and when the plant is in blossom half as
long as the floret.—In structure it comes nearest to the agrostis
vinealis. ST.

— *vivipara*. Panicle viviparous. LIGHTF. p. 1082.

viviparous

Highland mountains.

Oct.

Moist meadows and woods.

P. June. Aug.

It is very apt to grow in tufts and occasion irregularities in the sur-
face of meadows.

Cows, Goats, and Swine eat it. Horses are not fond of it.

A'IRA.

heath

A'IRA flexuosa. Leaves like bristles. Straws almost naked. Panicles diverging. Fruit-stalks zigzag. LINN. Panicle expanding. Florets hairy at the base; awned. Awn twisted, longer than the bloss. HUDS.

Schreb. 30.—Fl. dan. 157.—Scheuch. pr. 6. 1.—H. ox. viii. 7. row 3.

9.—Branch of the panicle, &c. Leers 5. 1.—Floret, Mont. 74.

bad. (J. B. ii. 509. 2. not the plant.)

Florets with a twisted awn as long as the bloss. fixed to the outer side of the base of the petal. LINN. Flowers brownish purple or greenish. HUDS. Upper floret on a very short fruit-stalk; both hairy at the base. Awn from above the base, twisted, bent aside, somewhat longer than the blossom. LEERS. ST.

Heaths, woods, and barren pastures. [Rocky Moors in the North. Mr. WOODWARD.] P. July. Aug.

Horses, Cows, and Sheep eat it.

mountain

A'IRA montana. Leaves like bristles. Panicle slender and compact. Florets hairy and awned at the base. Awn twisted and longer. LINN. Panicle upright, pointing nearly one way. HUDS. (Mr. H. should have added, fruit-stalks zigzag. See his description. ST.)

Scheuch. (J. Jac.) itin. p. 455. f. 15. cop. in Scheuch. pr. 4. 4.—

Stiling. 4.—Branch of the panicle, &c. Leers 5. 2.—Florets,

Scheuch. 4. 16. A. B. C. (Floret, Mont. 75. not awned.)

Differs from the *flexuosa*, with which it exactly agrees in habit, only in the blossom, being hairy at the base. GERARD. prov. but the *flexuosa* is so also. See SCHEUCH. LEERS. SCHREB. and HUDS. (ST.) My specimens are undoubtedly only varieties of the *flexuosa*. LEERS and ST. Root-leaves longer, upright. Straws incorporated, purple. Panicle more elegantly and fully coloured. Fruit-stalks straight, not undulated. Flowers more numerous. Empalements while in flower more widely expanded. Florets more hairy at the base. Awns longer. LEERS. The *flexuosa* is the same plant, only more fully grown. HALL and WIGGERS. Root perennial, fibrous. Straws many, from 6 to 18 inches high; rather upright, cylindrical, smooth; with 2 or 3 joints. Root-leaves numerous in bundles, stiff, bristly, naked, sea-green. Stem-leaves 2 or 3; stiff, expanding, on leaf-stalks, edges turned in so that they appear like bristles. Leaf-stalk very long, cylindrical, sheathing, scored, naked. Props within the leaves; upright, sharp, membranaceous, permanent. Panicle slender, upright, but 1 rowed; compact, branched: its branches zigzag, rough. Little spikes of 2 florets, one sitting, the other on a fruit-stalk. Receptacle hairy. Empal. Husk 2 equal valves, oblong, rather sharp, concave, naked, purplish; longer than the blossom. Bloss.

2 valves;

2 valves, oblong, equal, concave, sharp, smooth. *Outer valve* awned at the base. *Awns* twice as long as the blossom, bent at its middle. *Chives*. Threads 3, hair-like, short. *Tips* halberd-shaped, purple. *Summits* woolly. HUDS.

High heaths and sandy pastures. [Salt Marshes, Norf. Mr. WOODWARD.] P. July. Aug.

Sheep are extremely fond of it.

B *Setacea*. Awns twice as long as the florets. HUDS.

small-leaved

[Stratton Heath, Norfolk. Mr. CROWE.]

A'IRA *canescens*. Leaves bristle-shaped. Florets as *grey* short again as the empalement, the uppermost on a Fruit-stalk. Awns club-shaped at the end, and about the middle encircled with small teeth. ST.* Leaves bristle-shaped. Panicle close, upright. Florets awned, as short again as the empalement. HUDS. Leaves bristle-shaped, the uppermost sheath-like, inclosing the panicle below. LINN.

Lob. adv. alt. 466. i. cop. by J. B. ii. 463. 2.

Awns encompassed with little teeth in the middle part, brown and thick below, but whitish, slender, and somewhat club-shaped above. After flowering the panicle rises higher out of the sheath; before flowering it resembles a spike. This is paler than most other grasses, and from that circumstance may be distinguished at first sight. LINN. Root fibrous. Straws several, $\frac{1}{2}$ a foot high, slanting, smooth. Leaves rough; root-leaves bundled, stiff, sea-green; stem-leaves upright, pointed, rolled in. Leaf-stalks rough, cylindrical, sheathing, almost as long as the joint; the uppermost sheath-like, inclosing the panicle below. Panicle oblong. Empal. valves equal, oblong, pointed, keeled, keels rough. Bloss. valves unequal, oblong, hollow, rather pointed, smooth; outer one awned. Awn from the middle as long as the empalement. HUDS. Florets hairy at the base. Awn twisted below. ST. Cows and Goats eat it. When young it affords a good pasture for Sheep. GLEDITCH.

Sandy shores. [Yarmouth Denis. Mr. WOODWARD.]

P. July. Aug.

A'IRA *præcox*. Leaves bristle-shaped. Sheaths an- *early* gular. Flowers in a spike-like panicle. Florets awned at the base. LINN. Panicle contracted. WIGGERS. Awn from between the base and the middle. Florets sitting. ST. Curt.

* Foliis setaceis; flosculis calyce duplo brevioribus, superiore pedunculato; infimis superne clavatis, medio denticulis cinctis. ST.

Curt. iii. n. 25.—*Fl. dan.* 383.—*Pluk.* 33. 9, middle panicle the only one well done.—*Ray* 22. 2, awns too short.—*Floret, Mont.* 80. bad.

Nearly allied to the *A. canescens*, but smaller, being one of the smallest of the grasses.

Barren sands, common.

A. May. June.

silver

A'IRA caryophylléa. Leaves bristle-shaped. Panicle straddling. Flowers distant, awned. LINN. Panicle 3-forked. Flowers diverging. HUDS. Florets sitting. ST.

Fl. dan. 382.—*H. ox.* viii. 5. row 3. 11.—*Stiling.* 5.—*Scheuch. iter* ii. 18. 2.—*Barr.* 4. 1.—*Branch of the panicle, Scheuch.* 4. 15.—*Floret, Mont.* 81. bad. (*C. B. pr.* not the plant. Leaves broad, panicle too large in proportion to the straw.—*Leers* 7. 5. one of the florets on a fruit-stalk, not our plant at least, or that of *Scheuch.* though that of *Royen*, also referred to by LINN.)

Awns from above the base, and a little below the middle of the outer valve of the blos. Florets both sitting. SCHEUCH. POLLICH. and ST. Panicle at first contracted, afterwards diverging, and at length straddling. POLLICH. ST.

2. Sometimes only one of the florets awned. SCHEUCH.

Gram. paniculat. purpuro, &c. SCHEUCH. 233. 1. 4. f. 23, (not 22.)

Sandy pastures, frequent. [On the beach at Lowestoff, Suffolk, and elsewhere. Mr. WOODWARD.] A. July.

88. MEL'ICA. Melic.

Pl. II. fig. 16.

EMPAL. Husk 2 valves, containing 1 or 2 florets. Valves egg-shaped, concave; nearly equal.

BLOSS. Two valves. Valves egg-shaped; without awns; one concave, the other flat. Betwixt the 2 florets there is a small substance.

CHIVES. Threads 3; hairlike as long as the blossom. Tips oblong, forked at each end.

POINT. Seedbud betwixt egg and turban-shaped. Shafts 2; like bristles; expanding. Summits oblong; woolly.

S. VESS. None, the blossom incloses the seed until it ripens.

SEED. Single, egg-shaped.

ESS. CHAR. Blos. 2 valves, containing (1 or) 2 florets, with an imperfect floret betwixt them.

OBS. The rudiment of a third floret standing upon a little fruit-stalk betwixt the other two florets, gives the essential character of this

this genus. It consists of two rudiments, or florets; lopped; alternate. The husks rolled spirally inwards and pellucid. LINN.—When there is only one *floret* in each empal. this *rudiment* is found betwixt the blossom and the inner valve of the empal. WITH.

MEL'ICA *uniflora*. Panicle with few flowers. Em- wood
palements containing 2 florets, 1 with chives and point-
als, the other without either. RETZIUS *obs.* i. n. 9. ST.—
Valves of the empalement pointed. ST.—Petals not
fringed. Panicle nodding; branches pointing one way.
Empalement containing 1 floret. HUDS.

H. ox. viii. 7. 49.—MR. WOODWARD. ST.—Lob. *adv. alt.* 465.

i. cop. in J. B. ii. 434, and Park 1151. 3.

Straw thread-like, (slender ST.) 3, (4) square, smooth.
Sheaths of the leaves hairy at the brim. Panicle, lower fruit-stalks 2,
(sometimes 1, or 3,) one of them shorter, generally bearing 1
flower; the upper ones single, (or 2 together. ST.) Empal. outer
(inner) valve larger, egg-shaped, (oblong) hollow, (with 5 ribs;) the inner (outer) spear-shaped, with 3 ribs. Floret with chives and
pointals sitting; outer valve embracing the inner; edges of the inner
membranaceous, reflected, (folded inwards); the barren one of 2
valves. Often grows along with the *nutans*, but truly distinct. (In
this part of England we have not the *nutans*.) In more than a thou-
sand specimens there was not 1 panicle truly simple, or a single
empal. that contained 2 perfect florets, and being cultivated in a
garden for 3 years, it remained unchanged. RETZ. and ST.—Sheaths
of the leaves pubescent, with the points of the hairs directed down-
wards, but not rough to the hand passed upwards. Panicle slender,
with a gentle slanting curvature. Fruit-stalks straight. Flowers upright.
Bloss. gristly, of a pale greenish tinge, about the length of the inner
valve of the empalement; valves oblong, blunt; the outer smooth, not
glossy, with 7 obsolete ribs at unequal distances; the inner nicked,
and pubescent at the end, with 2 stiff ribs. Little spike of neutral
florets, inversely egg-shaped, between the blossom and the inner
valve of the empalement, together with its fruit-stalk as long as the
blossom, composed of the rudiments of 3 and even 4 florets, each
consisting of 2 membranaceous valves similar in shape to those of the
perfect floret; each supported on a fruit-stalk of its own, rising
from the base of the inner valve of the last rudiment; and each as
small again as the floret below it. No chives or pointals in any of
them. Conjectured it to be a var. of the *nutans*, and called it *M.*
nutans uniflora. Described by Ray *syn.* p. 403. n. 6. and possibly by
Picheuch. p. 173. n. 2.—Its bellying valves, the gristly texture of its
blossom, its ribbed empalement, and its habit, combine to point

out an affinity between our 2 species and the *Milium effusum*. ST. May 18. 74. and Aug. 10. 76.—*Empal. valves* brown, with a tinge of purple; *outer* narrower, egg-spear-shaped, just shorter than the blossom; *inner* oblong, generally longer than the blossom. *Bloss. valves* oblong, cartilaginous; *outer* smooth, marked on the outside with 6 ribs, the middle ones but just perceptible; *inner* nearly as long as the outer; lateral ribs pubescent.—*Habit* very different from that of the *nutans*. ST.—*Empal. outer valve* a size smaller than the inner valve. *Panicle* after flowering nearly upright. WITH.

Melica nutans. HUDS.

Woods and hedges, not uncommon. P. May to Aug. ST. W.

mountain

MEL'ICA *nutans*. Petals not fringed. Panicle nodding simple. LINN.—Valves of the empalement blunt. ST.—Panicle close, upright, nearly simple. Flowers pendant, pointing one way. HUDS.

Schreb. 6. 1. (2 in the printed text.)—C. B. pr. 20. repr. in th.

155. and cop. by Park. 1151. 5.—Barr. 95. 2.—96. 2.—J. B.

ii. 434. 1.—Panicle, &c. Leers, 3. 4.—Scheuch. 3. 16. D. E.

F. (Barr. 95. 1. is described to have rush-like leaves, and 96. 1. is the Gram. Scheuch. p. 173. n. 3.)

Flowers in a bunch, Clus. ii. 219. repr. in Ger. em. 20. 2.?—Ger.

18. 2, repr. in C. B. 154, and cop. in J. B. ii. 492. 1.

Flowers pendant. LINN. lapp. Fruit-stalks towards the base of the blossom bowed back. SCHEUCH.—*Empal. valves* shorter than the blossom, dirty purple, margins membranaceous, whitish; *outer* egg-oblong, shorter; *inner* oval. *Bloss. valves* oblong, between membranaceous and cartilaginous; *outer* scored, whitish, sometimes tinged with purple; *inner* a good deal shorter, pubescent. ST.

Melica montana. HUDS.

Mountainous woods in Yorksh. Westmorel. & Cumberl. [Helkewood, by Ingleton, Yorksh. Mr. WOODWARD.] P. June. July.

In the Isle of Raza they make this grass into ropes for fishing nets, which are remarkable for lasting long without rotting. Pennant's Tour. 1774. p. 297.—Cows, Horses, and Goats eat it.

purple

MEL'ICA *carulea*. Panicle compact. Flowers cylindrical.—

Fl. dan. 239.—H. ox. viii. 5. row. 3. 22.—Panicle, &c. Leers, 4. 7.

Root bulbous. Leaves flat. Straw for a great length without knots. Florets awl-shaped, rolled in at the edges, sometimes 3, and in very rich soil, 4 in an empalement. A pedicle knobbed at the end rises from betwixt the florets. Tips purplish blue. Pointals purple. LINN.—Straw with only 1 knot which is close to the root. Leaf-stalks

stalks sheathing, on the inside where it joins the leaf, instead of a membrane, beset with a transverse row of close short hairs. SCHEUCH. ST.—*Empal. valves* somewhat keeled; the *outer* rather shorter. *First floret* fitting, twice as long as the empalement. *Spike-stalks, joints* half as long as the floret that is fixed to its point, terminated by an imperfect floret half as long as the next below it. *Bloss.* texture the same with that of the empalement; *outer valve* somewhat keeled, marked within with 5 ribs, egg-shaped, oblong, blunt; *inner* with a prominent rib on each side, edges folded in. ST.

Aira cœrulea. Sp. pl. HUDS. LEERS. SCOP.—*Arundo.* HALL. But in my specimens of both varieties the blossoms are quite bare. ST. Boggy barren meadows, and pastures. P. July. Aug. Horses, Sheep, and Goats eat it. *Chermes graminis* is found upon it. LINN.

SESLE'RIA. (SCOP. ARDUIN. ADANSON. HALL.)— Moorgrafs.

EMPAL. *Fence* 2 leaves at the bottom of the spike or bunch. *Husk* 2 valves, containing 1, 2, or 3 florets; *valves* egg-shaped, taper pointed, nearly equal.

BLOSS. *Valves* 2, oblong, compressed, about the length of the empalement; the *outer* concave, embracing the inner, toothed at the end, the keel running out into a short awn; *inner* flat, with the edges folded in, cloven at the end.

CHIVES. *Threads* 3, hair-like, longer than the blossom. *Tips* oblong.

POINT. Of the length of the threads. *Seed-bud* inversely egg-shaped; hairy. *Shafts* 2, bristle-shaped, upright. *Summits* pubescent.

3. VESS. The blossom inclosing the seed.

SEED. One, hairy. ST.

ESS. CHAR. *Fence* of 2 leaves. *Empalement* containing 2 or 3 florets. *Blossom* toothed at the end. ST.

Obs. In the position of the fence, and in its habit it approaches to the tribe of *Graminifolia*.* The above descriptions were made from a collective view of the following: *Sesleria sphærocephala.* Arduin. spec. ii. t. 7. Hall. ap. Scheuch. app. ii. n. 30. and

* The *Daelylis pungens* SCHREB. has a general fence of several leaves. ST.

blue SESLE'RIA *cæru'lea*. SCOP. Straw undivided. Spike somewhat cylindrical. ARDUIN. ST.

C. B. pr. 21. 1, repr. in th. 158, and cop. in Park. 1152, 6, well done.—Scheuch. 2. 9. *A. B. florets and empalement indifferent.* (*J. B. ii. 466: 2. is a copy of 476. 2, the Phal. arund. β.*)

Straws oblique. Leaves betwixt sea-green and bluish. Spike sometimes white. LINN.—*Spike from $\frac{1}{2}$ to nearly 1 inch.* SCHEUCH. ST.—*Seeds hairy. Empal. valves ending in awn-like points.* HALL. ST.—*Straws surrounded at the base with a bundle of root-leaves inclosed in a whitish brown wrinkled skin, giving the appearance of a branched root; above bare of leaves. Bunch spike-like, egg-oblong. Florets on short fruit-stalks, purplish livid, or brownish white. Fence-leaves roundish, embracing the spike-stalk, gnawed, membranaceous, shorter, but thrice as wide as the empalement; the lower one at the base of the bunch, the other a little higher up at the base of the florets of the opposite side. Empal. containing mostly 2 florets, sometimes just longer, and sometimes just shorter than the florets, edges and keel bearded. Blofs. valves equal in length, edges and keel bearded; outer with 5 ribs, cloven at the end into 4 teeth, ending in awn-like points, the two middle ones shorter, with the keel running out from between them into a short awn twice as long as the teeth. Threads white. Tips whitish, cloven at the base. Seed-bud reddish brown. Shafts white.* ST.

Cynofurus cæruleus. LINN.—*Aira varia.* JACQ. *enum.* who remarks that Linn. has improperly placed it in the genus *Cynofurus*, it having no affinity to that family. ST.

Mountainous pastures in the North; sometimes in marshes. [Crevices of the Lime Rocks at the foot of Ingleborough. ST.]

P. May. June.

Horses, Sheep, and Goats eat it. Swine refuse it.

89. P O ' A. Meadowgrafs. (Gerard.)

Pl. II. fig. 18.

EMPAL. *Husk* 2 valves without awns; containing several florets pointing from two opposite lines and collected into an oblong egg-shaped spike. *Valves* egg-shaped, tapering.

BLOSS. 2 valves. The *valves* egg-shaped, tapering, concave, compressed; somewhat longer than the empalement; skinny at the edges.

CHIVES. *Threads* 3; hair-like. *Tips* forked at each end.

POINT. *Seed-bud* roundish. *Shafts* 2; bent back; woolly. *Summits* like the shafts.

S. VESS. The bloss. adheres to the seed without opening.

SEED. Single; oblong, compressed, tapering at each end and covered by the blossom.

ESS. CHAR. *Empal.* 2 valves, containing several florets. Little spikes egg-shaped; valves somewhat pointed; skinny at the edges.

P O ' A *aquat'ica*. Panicle spreading. Little spikes *Reed* strap-shaped, containing 6 florets. LINN.—Panicle upright, branched. Little spikes betwixt egg and strap-shaped. Straw upright. HUDS.

H. ox. viii. 6. 25.—Ger. 7. 2, repr. in C. B. 40.—Ger. 6. 2, repr. in C. B. th. 38.—Ger. em. 6. 1.—Branch of the panicle, Leers 5. 5. Scheuch. 4. 1.—A little spike, Mont. 38.

Empal. containing from 5 to 10 florets. *Straw* 6 feet high. LINN.—*Straw* from 4 to 6 feet high; upright, 2 edged, smooth. *Leaves* sword-shaped, sharp, straight, keeled; rough at the edges and along the keel. *Leaf-stalk* a sheath, cylindrical, scored, smooth. *Props* membranaceous, blunt, solitary; betwixt the leaf and the straw. Florets from 5 to 10. HUDS.—Panicle purplish. Leaves broad, channelled. WITH.

Marshes and banks of rivers.

P. July. Aug.

It is an extremely useful grafs to sow upon the banks of rivers or brooks. Horses, Cows, and Sheep are exceedingly fond of it.

P O ' A *trivial'is*. Panicle somewhat spreading. Florets *rough-stalked* woolly at the base, 3 in each little spike. Straw cylindrical. upright. LINN.—Panicle spreading. Little spikes, with generally 3 florets. Straw upright, rough. Leaf-stalks taper pointed. CURT.—Panicle branched, spreading.

ing. Little spikes egg-shaped, crowded together. Florets woolly at the base. Leaves rough, sharp. Straw nearly upright. Huds.

Curt. ii. 15.—Park. 1156. 4, uppermost on the right hand.—C. B. 30. (Dod. 560. 2, repr. in Ger. 2. 2, does not seem to be the plant.)

Straws incorporated, upright, straight. Leaves keel smooth. Leaf-scales oblong, spear-shaped. Florets coloured at the point, yellower than in the other species. LINN.—Root fibrous. Straw weak, creeping at the base, scored. Florets 2, 3, and sometimes 4. SCHEUCH.—Mr. Curtis has given the same references to Ray, Ger. and Park. to this and the *P. prat.* ST.—Panicle open; 2, 3, or 4 fruit-stalks rising from the same point. Florets 3 or 4 in each empalement. Tips reddish purple. Straw, fruit-stalks, and little spikes, roughish. Leaves rough; the top of the uppermost leaf reaches to the bottom of the panicle. WITH.—Panicle spreading. Little spikes with generally 5 florets. Straw upright, smooth. Leaf-scales blunt. CURT.

Bird-grafs, by which name it is known to the seedsmen. Fowl-grafs, Fowl Meadow-grafs. Fold Meadow-grafs.*

Moist meadows and sides of ditches.

P. June. July.

Begins to flower the first week in June, and generally continuing during the whole of the summer. CURT.

marsh *β. palustris.*—Panicle spreading. Little spikes with generally 3 florets. Leaves rough underneath. LINN.

(H. ox.

* The grass known by the above names to the London seedsmen and experimental farmer, is generally believed to be the *Poa trivialis*, as I am informed by that excellent botanist the author of the *Flora londinensis*. It was brought from America by Mr. Wych, of the Society of Arts, in 1763, and highly recommended in the *Mus. russ.* iv. p. 44, as affording a remarkably fine sweet scented hay. The facility with which it may be cultivated, by means of the numerous suckers which it throws out from the lower joints, and the great rapidity with which these again propagate themselves, induce us to hope that it may become permanently naturalized, and expel at length from our meadows and pastures that enormous heap of useless weeds with which they are at present unprofitably encumbered.—Not having had an opportunity of examining it, I shall subjoin the following account of it from Haller. ST.

fowl *Poa stolonifera.* Little spikes containing 3 florets. Florets somewhat woolly at the base. HALLER.

Mus. russ. v. 1. 4.

Approaches very near to the *P. angustif.* but differs in its *Flowers* being more distinct, and its *Florets* being woolly at the base. Straw knee-jointed, throwing out leaves from each knot; upright above, 2 or 3 feet high. Leaves smooth, less than a line in width. Panicle contracted. Flowers crowded, tapering to a point, green at the end, of a purplish chestnut. HALL. *app. to Scheuch.* p. 93. n. 48.

(*H. ox.* iii. 6. 27, from the florets figured on the side, as well as its habit, appears to be rather an *Agrostis*.—*Fl. dan.* 750, edges of the blossom fringed, and the 2 upper florets on long fruit-stalks.)

Empal. valves as long as the blossom, rough on the back. Florets 2 or 3 in each empalement; one floret sitting; the other on short fruit-stalks, which are very rough. Upper leaf sheathing the straw and nearly as long as the panicle. If the third floret was not sometimes found, the student would be led to search for it in the genus *Aira*. WITH.—Florets sometimes only 3. SCHEUCH.—*Poa trivialis palustris*. HUDS. (Not *P. palustris* Gmel. tub. for his hath smooth leaves.)

Watery places amongst reeds and the *Poa aquatica*. June.
γ setacea.—Panicle spreading. Little spikes with 3 florets; pubescent. Root-leaves bristle-shaped. *Poa trivialis setacea*. HUDS.

P O' A angustifolia. Panicle spreading. Florets 4 in each little spike; woolly. Straw cylindrical, upright. LINN.—Panicle nearly upright. Little spikes on fruit-stalks; egg-shaped. Fruit-stalks straddling. Florets hairy at the base. Leaves pointed HUDS.

H. ox. viii. 5. 19.—Panicle, &c. Leers 6. 3.—A branch of it, Scheuch 3. 17. B.

Florets when ripe often woolly, and when separated from the empalement adhering together. LINN.

WAR. β. Florets 2 and often 3. SCHEUCH. ——— *Poa angustifolia nemoralis*. HUDS.—*Poa nemoralis*. LINN. which see.

Woods and hedges. [In Hertfordshire Mr. WOODWARD.]
P. June. July.

Horses, Cows, Sheep, Goats, and Swine eat it.

P O' A pratensis. Panicle spreading. Little spikes smooth stalked smooth; with 5 florets. Straw cylindrical, upright. LINN.—Panicle spreading. Little spikes with generally 5 florets. Straw upright, smooth. Leaf-scales blunt. CURT.—Panicle branched. Little spikes egg-shaped, crowded. Florets woolly at the base. Leaves blunt. Straw not quite upright, sending out suckers. HUDS.

Curt ii. 14.—*C. B.* 28.—*H. ox.* viii. 5. 18.—*Stilling.* 6.—Panicle, &c. Leers 6. 4.—Branch of it, Scheuch. 3. 17. A. (*J. B.* ii. 461. 2, seems rather *P. nemoralis*, and *Dod.* 560. 1, and its copies to be *P. annua*.)

Florets generally 2, and sometimes 3. SCHEUCH.—Root creeping. Straw firm, upright, scarce perceptibly scored. Florets sometimes only two. CURT.

On walls, dry banks, and not unfrequently in meadows, and begins to flower about the 3d week in May. CURT. — June. July. HUDS.

alpine β . *Poa pratensis alpina*. HUDS.—Panicle spreading, very much branched. Little spikes heart-shaped, with 6 florets. LINN.

Scheuch. pr. 3. 4.

Florets from 2 to 5. SCHEUCH.—*Poa alpina*. LINN. Mountains.

viviparous γ *Poa pratensis vivipara*. HUDS.—*Poa alpina vivipara*. LINN.

Fl. dan. 807.—Scheuch. it. i. 4. 2.—Scheuch 4. 14.

On Snowdon.

P. June. July.

Horses, Cows, Sheep, and Swine eat it.—Goats are not fond of it.

annual P O' A *an'nua*. Panicle spreading horizontally. Little spikes blunt. Straw oblique, compressed. LINN.—Panicle expanding; pointing one way; branches in pairs. Straw oblique, two edged. HUDS.—Branches of the panicle sometimes horizontal, sometimes slanting. CURT.—Florets without wool at the base. ST.

Curt. 1. 2.—Stillingf. 7.—H. ox. viii. 5. 21.—Mus. rust. iv. 2. 8.—Dod. 560. 1, repr. in Lob. obs. 9. 1, Ger. em. 2. 1; and cop. by Park. 1156. 4, the uppermost on the left hand.—C. B. th. 31, cop. in J. B. ii. 465. 1.—Ger. em. 3. 2. cop. in Park. 1156. 4, the lowermost on the left hand, and J. B. ib. 2. *—Panicle, &c. Leers 6. 1.—Branch of the panicle, Scheuch. 3. 17. E.—Park. 1156, the lowermost on the right hand.

This is distinguished from the *P. trivialis* by its general habit, its spreading panicle, its compressed reclining straws, and by its greater softness and delicacy; from the *P. pratensis* and *angustifolia* by the branches proceeding from the stalk in pairs, by its size, &c. POLLICH.—Florets green, sometimes reddish: 4 or 5 in each em. pal. SCOP.—Bloss. keel between hairy and pubescent. ST.—Branches of the panicle in the middle often in threes, at the top solitary. CURT.—Little spikes larger than those of the *P. pratensis*. Mr. DICKENSON.

Suffolk grass.

Pastures, paths, gravel walks, and the borders of fields.

A. April.—Sept.

Horses, Cows, Sheep, Goats, and Swine eat it.

sea P O' A *maritima*. Panicle compact, branched, pointing one way. Branches in pairs. Little spikes oblong. Florets blunt. Leaves sharp; edges rolled in. Straw cylindrical, slanting. HUDS.—(In my specimens, branches 5 from a knot. ST.)

(Fl.

(*Fl. dan.* 251, is referred to by *Lighth.* and *Roth*, but *Hudson* omits it, neither does it accord with my specimens.—*C. B. th.* 130, seems the same plant with *Fl. dan.* 251, tending towards decay.)

Root perennial, creeping. *Straw* from 6 to 12 inches high; smooth. *Leaves* on leaf-stalks, sword-shaped, expanding, tapering to a point; bare. *Panicle* oblong, upright. Lower *panicle* branches sometimes a little expanding. *Florets* from 3 to 7 or 8; bluntish, smooth. *HUDS.*—*Leaves* rolled in so as to resemble rushes. *Panicle* purplish, but little spreading; composed of narrow, oblong spiculæ, not sawned. *RAY.*—Very nearly related to *Festuca fluitans*. Perhaps the sea water may occasion the difference. *LIGHTF. ST.*—The *panicle* when in flower bears some resemblance to that of the *F. fluitans*, but I cannot by any means believe the sea water to have effected such changes; besides it is different in habit and structure, and belongs rather to the *Poas*. *ROTH. beytr. p.* 8.—But the *F. fluitans* has the structure of *Poa*. Cultivation alone can ascertain the point. *ST.*—(*Poa arenaria*, *RETZ. scand.* but he says, “*Panicle* somewhat spreading, little spikes sitting.”) (*Gram. exile durivusc. marit.* *SCHUCH.* 272 is a quite different plant.) *ST.*

Sea coast, frequent. [*Salt Marshes, Norf. Mr. WOODWARD.*] P. June. July.

PO'A rigida. *Panicle* spear-shaped; somewhat hard branched; pointing one way. Branches alternate, pointing one way.—

Curt. ii. 24.—*Vaill.* 18. 4.—*H. ox.* viii. 2. 9.—*Barr.* 49.—*Ger.*

4. 3.—*C. B. th.* 32. 1, cop. in *Park.* 1157.—Branch of the *panicle*, *Scheuch.* 6, 2, and 3.—*Floret, Mont.* 11.

Straw very short and stiff. *Panicle* spear-shaped, inflexible; doubly compound; its branches alternate. Little spikes alternate, on inflexible fruit-stalks, which are shorter than the spikes they support; strap-shaped, sharp, about 8 florets in each. *Florets* sharp and skinny at the point. *Empal.* keeled. *LINN.*—*Florets* from 3 to 9 in each little spike. *HUDS.*

Walls, roofs, sandy and stony places, frequent. A. July.

PO'A compressa. *Panicle* compact; pointing one creeping way. *Straw* oblique, compressed. *LINN.*—*Panicle* upright. *Straw* ascending. *HUDS.*

Fl. dan. 742.—*Vaill.* 18. 5.—*Panicle*, &c. *Leers* 5. 4, branches of the *panicle* horizontally expanding, instead of crowded, as in the specific character.—Little spikes, *Mont.* 10.

Florets generally 6 in each empalement. *LINN.*—*Panicle* more or less scattered. Little spikes 2 to 4 lines long. *SCHUCH.*—Root somewhat

what creeping. *Little spikes* almost sitting, near together. *Florets* somewhat woolly at the base. LEERS. ST.—A very small tuft of wool at the base of the *lowermost floret*, which may be drawn out to nearly the length of the floret, that of the upper florets scarcely more than a hair or two. ST.—*Little spikes* much larger than those of the *Poa pratensis*. MR. DICKENSON.

Walls, house tops, and other very dry places. P. June. July.
Horses, Cows, Sheep, and Goats eat it.

wood PO'A *nemoralis*. Panicle taper. Little spikes sharp pointed, rough, 2 florets in each. Straw bent inwards.—
Scheuch. pr. 2. 2.—Fl. dan. 749.—Scheuch. it. ii. 18. 3.—(J. B. ii. 461. 2.)—Panicle, &c. Leers 5. 3.—Little spike, Mont. 12.
Florets sometimes 3. SCHEUCH.—from 2 to 5. MR. HOLLEFEAR.
Poa angustifolia nemoralis. HUDS.—A distinct species. MR. WOODWARD.

Woods and shady places. [Plentiful in the North. MR. WOODWARD.]. A. June.

bulbous PO'A *bulbosa*. Panicle somewhat expanding; pointing one way. Little spikes of 4 florets. LINN.—Little spikes egg-shaped. Florets smoothish; sharp. Straw upright, bulbous at bottom. HUDS.

γ Vaill. 17. 8.

Panicle branched, the branches angular, roughish. Little spikes egg-shaped, sharp; with 3, 4, or 5 florets, a little hairy at the base. HUDS.

Florets not unfrequently 5. SCHEUCH.

viviparous β Barr. 703, 1 and 2.—C. B. th. 32. 2, cop. in Park. 1158. 1.—
Ger. em. 3. 1.—Pet. ii: gramital. 4. 9 and 11.—J. B. ii. 464.
—Flowers, &c. Scheuch. 4. 13. A. B. C.

Pastures near Clapham, Surry. P. May. June.

loose-flowered PO'A *distans*. Panicles with sub-divided branches. Empal. with 5 flowers. Florets distant, blunt.—

Height the same with the generality of Poas. Straws ascending, smooth. Leaves smooth. Panicle roughish. Florets sometimes only 4, from the point to the middle white, so remote from each other that it might readily be taken for a species of *Agrostis*, if the Empal. was not attended to, which at once distinguishes it. LINN.—Has the habit of *Poa aquatica*, but all the parts more delicate and smaller, though the little spikes are not shorter. JACQ. obs. p. 42. Root fibrous. Straws several, slanting, or nearly upright, cylindrical, smooth. Root-leaves few, sword-shaped, upright, blunt, bare. Stem-leaves on leaf-stalks, blunt, sometimes rolled in, sea-green. Leaf-stalk sheathing, cylindrical, scored, smooth. Leaf-scale mem-

brana-

branaceous, very short, blunt. *Panicle* spreading and expanding, branches generally growing in fours. *Little spikes* strap-shaped. *Florets* from 3 to 6 or 7; remote, blunt, as if lopped; sometimes purplish; white at the edge. *Husks* 2 unequal valves, very blunt. *Huds.*—*Florets* when out of blossom standing distinct from each other; at other times tiled, like other *Poas*; 1 line long; of an even surface, not ribbed. *ST.**

Aira aquatica distans. *Huds.*

Sandy places near Exmouth. About Northfleet in Kent, and in Yorkshire and Lancashire. P. June. July.

P O' A cristata. *Panicle* spike-like. *Empal.* somewhat *crested* hairy, longer than the fruit-stalks, about 4 flowers in each. *Petals* awned. *LINN.*—(*Empal.* containing 2 to 3 *florets*. *Bloss.* valves often merely pointed. *ST.*)

H. ox. viii. 4. 7.—*Pluk. 33. 7.*—*Panicle, &c. Leers 5. 6: (Fl. dan. 251.—Mont. 78. and Scheuch. 6. 4. are different plants.)*

Little spikes oblong. *Empal.* shorter than the *florets*. *Florets* from 2 to 4. This species seems the connecting link between *Poa* and *Festuca*. *ST.*

Aira cristata. Sp. Fl.

High barren pastures. [On the edge of a Marle Rock, Clarkton Leap, near Worcester. *ST.*]

P O' A minima. *Empal.* containing 1 *floret*. *ST.* *small*
Agrostis minima, which see, but it is truly a *Poa*. *ST.*

P O' A lolia'cea. *Spiked.* *Little spikes* fitting; up- *spiked* right, pointing one way. *Huds. ST.*

H. ox. viii. 2. row 2. 6.—*Pluk. 32. 7.*—*Scheuch 6. 5, two little spikes.—C. B. pr. 18. 2, repr. in th. 130, ill done if the plant, though descr. is that of P. loliacea.—C. B. th. 130. is P. maritima.*

Spike mostly pointing one way; sometimes branched at the base. *Branches* upright; very short. *Little spikes* egg-shaped. *Florets* from 3 to 10; smooth. *Huds.*

Triticum maritimum, which see.

* In the London Botanic Garden has been cultivated for some years past, a species which the owner has very happily named *Poa retrofracta*, from several of the branches being as it were broken back. My specimens have induced me to suspect it to be the *Poa distans*, expanded in all its parts by cultivation, or a richer soil; but I flatter myself Mr. Curtis will not be long before he favours the public with a full account of what he may have observed concerning this curious species, in an early number of his excellent Flora. *ST.*

90. BRI'ZA. Quake-grafs.

Pl. II. fig. 17.

EMPAL. *Husk* 2 valves, expanding; containing feveral florets pointing from two opposite lines, collected into a heart-shaped fpike. *Valves* blunt, heart-shaped, concave, equal.

BLOSS. Two valves. *Lower valve* the fize and figure of the empalement. *Superior valve* fmall, flat, roundifh, clofing the hollow of the other.

CHIVES. *Threads* 3; hairlike. *Tips* oblong.

POINT. *Seedbud* roundifh. *Shafts* 2; hairlike; bent back. *Summits* downy.

S. VESS. The bloffom unchanged, contains the feed until it is ripe.

SEED. Single; very fmall; roundifh, compressed.

ESS. CHAR. *Empal.* 2 valves, containing feveral florets. *Little fpiques* 2 rowed. *Valves* heart-shaped, blunt; inner valve very fmall.

fmall BRI'ZA *mi'nor*. Little-fpiques triangular. *Empal.* longer than the florets.—

H. ox. viii. 6. 47. corresponds with our plant and the Linnæan character, though not quoted by Linn.—*Barr.* 16.—*Park.* 1165. 5. (*C. B.* pr. 4. though referred to by Linn. is only a fmaller fpecimen of the *B. media*, which fee.)

In pastures.

A. Linn. P. Hudf. July.

middle BRI'ZA *me'dia*. Little fpiques egg-shaped. *Empal.* fhorter than the florets.—

Fl. dan. 258.—*H. ox.* viii. 6. 45.—*Trag.* 670.—*Barr.* 15. 2.—*Ger. em.* 86. 2. repr. by *C. B.* 22. 1.—*Park.* 1165. 2. 6.—*J. B.* ii. 469. 2. 6.—*Branch of the panicle*, *Leers* 7. 2.—*Scheuch.* 4. 8.—*Floret*, *Mont.* 39. (*Barr.* 16. is the minor.) *Dwarf fpecimens*, *C. B.* th. 25. 1. cop. in *H. ox.* viii. 6. 46.—*J. B.* ii. 469. 2.—*Branch of the panicle*, *Scheuch.* 4. 9.

Straw with 3 joints near the root. *Panicle* with 2 little fpiques upon each branch. *Husks* egg-shaped, keeled. *Smaller petal* egg-shaped, cloven, plaited. *Tips* reddifh brown; yellowifh at the ends. *Dust* yellow. *Seed-bud* cloven at the end. *Shafts* longer than the empalement. *Honey-cup* fmall, valvular, contiguous to the feedbud. *Scor.*—*Smaller petal* flightly notched at the end; the plaits, before flowering, embracing and inclofing the tips.

Florets

Florets from 7 to 9 in each little spike. WITH.

Cow-quakes. Ladies-hair.

Fields and pastures.

P. July.

Cows, Sheep, and Goats eat it.

If a seed is carefully dissected in a microscope, with a fine lancet, the young plant will be found with its root and leaves pretty perfectly formed.

92. DAC'TYLIS. Cocks-foot

Pl. II. fig. 13.

EMPAL. *Husks* compressed; sharp; pointing one way. One *valve* longer than the blossom, keeled; the other shorter.

BLOSS. *Husk*; compressed; oblong; sharp. The longest *valve* keeled; lying within the longest valve of the empalement.

CHIVES. *Threads* 3; hair-like; as long as the blossom. *Tips* forked at each end.

POINT. *Seedbud* turban-shaped. *Shafts* 2; hair-like; expanding, woolly. *Summits* simple.

ES. VESS. None. The blossom incloses the seed until it is ripe.

SEEDS Solitary; naked; depressed on one side, convex on the other.

ESS. CHAR. *Empal.* 2 *valves*, compressed, 1 *valve* larger, and keeled.

OBS. In some species 1 floret in each empalement; in others 3, 4, or more.

DAC'TYLIS *cynosuroides*. Spikes numerous, rough, smooth scattered, pointing one way. LINN. Flowers in spikes. Empalement containing 1 floret. Shaft longer than the chives. ST. *

Linn. the Son, fasc. i. 9.

Straw 2 feet high; like that of an Arundo. Leaves 6 upon each straw; broad, very smooth and longer than the straw; rough at the edges, bent inwards; sea-green on the upper surface. Spikes 6 or more in a row; diverging; chaffy. Florets tiled; rough on the hinder part. Emp. rough along the keel, sharp-pointed, sitting; in 1 row; 1 floret in each, and longer than the floret. Pointals long; woolly.

* Floribus spicatis, monogynis, calyce unifloro. ST.

woolly. LINN.—The structure of the *pointal* marks an affinity with the *Nardus*, which is confirmed by its habit. ST.

Marshes in Essex, and other parts of the sea-coast, very common. RAY. P. July. Aug.

rough DAC'TYLIS *glomera'ta*. Panicle crowded, pointing one way.—

Schreb. 8. 2.—*Fl. dan.* 743.—*H. ox.* viii. 6. 38.—*Bauh. pr.* 9.

i. *repr. in th.* 45. 1.—*Mus. rust.* v. 1. 5.—*Park.* 1182. 5. J. B.

ii. 467. 1.—*Barr.* 26. 1. 2.—Panicle, &c. *Leers* 3. 3.—*Floret*, *Scheuch.* 6. 15. (*Park.* 1160. 7. *some other plant.*)

Empal. 4 florets in each. Bunches of flowers but little expanded. Little spikes compressed; in bundles, sitting; diverging when in flower. *Tips* reddish. LINN.—It is not a *Festuca*. It is sometimes viviparous. POLLICH.—*Empal.* containing 2, 3, sometimes 4 florets. LEERS—*Bloss.* no long hairs at the base, as in the *Phalar. arund.* ST.—*Straw* with 5 joints and 3 leaves. *Sheaths* of the leaves 2 edged, and woolly. *Petals* cloven, a little awn from the cleft of the larger petal. SCOP.—*Florets* in rainy seasons, sometimes viviparous. Mr. WOODWARD.

Thrives in the shade, and under the drippings of large trees. See a farther account of it in *Mus. rust.* v. p. 45. and iv. p. 186. *Orchard-grass.*

Very common.

P. June. Aug.

Horses, Sheep, and Goats eat it. Cows refuse it.

93. CYNOSU'RUS. Dogs-tail.

Pl. II. fig. 28.

EMPAL. Partial *Fence* large; lateral; generally consisting of 3 leaves. *Husk* 2 valves containing several florets. *Valves* strap-shaped; tapering; equal.

BLOSS. Two valves. *Outer valve* concave, longer than the other. *Inner valve* flat, awnless.

CHIVES. Threads 3; hair-like. *Tips* oblong.

POINT. *Seedbud* turban-shaped. *Shafts* 2; woolly; reflected. *Summits* simple.

S. VESS. None. The blossom closely wrapping round the seed, and not opening.

SEED. Single; oblong, tapering at each end.

ESS. CHAR. *Empal.* 2 valves, containing several florets.

Proper receptacle leafy; fixed to the side. LINN.—*Empal.*

2 valves. *Bloss.* 2 valves; fence winged; composed of scales pointing from 2 opposite lines. ST.

OBS. In most of the species the *Fence* is like a comb. LINN.—These fences, which connect this genus to the *Hordeum* and *Elymus*,

mus, appear as if abortive little spikes, analogous to the rudiment (*corpusculum*) of the *Melica*, and the *neutral florets* in the *Centaurea*, &c. and like those do not seem to be of any importance to the fertility or life of the plant. Beauty, and even mere variety, I am well persuaded, have not been forgotten in the creation of organised beings. ST.*

CYNOSU'RUS *criflatus* Floral leaves with winged *crested* clefts.—

Schreb. 8. 1.—Leers 7. 4. Spike, &c.—Gisek. 54.—Fl. dan. 238.

—Barr. 27. 2.—Muf. rust. iv. 2. 2.—H. ox. viii. 4. row.

3. 6.—C. B. th. 43. cop. in Park. 1160. 3.—Anderson.—

Stillingf. 11.—J. B. ii. 468. 3.

Floral leaves deeply divided into awl-shaped segments. Husks generally containing 3 florets. Smaller valve of the blos. ending in 2 points; larger valve ending in a short awn. Florets all facing one way. WITH.

VAR. β. Spike 4 cornered. Ray Syn. 399.

Pastures, common.

P. July. Aug.

CYNOSU'RUS *echinatus*. Floral leaves winged with *rough*. awned chaff.—

C. B. th. 59. cop. in Park. 1168. 6.—H. ox. viii. 4. 13.—Barr.

123. 2.—J. B. ii. 474. 1.—Scheuch. 2. 8. B. D. florets.—

Mont. 24. floret. (C. B. pr. 16. 2. is *Cenchrus capitatus*.)

Bunch congregated, pointing one way. Floral leaves only on the outside of the flowers, alternately winged, the rays ending in awns; 1 floret in each. Husk of 2 valves, containing 2 florets, membranaceous, very fine at the point. Blos. 2 valves, with an awn upon the outer point. Shaft cloven. LINN.

Sandy soil.

A. July.

CYNOSU'RUS *cæruleus*. Floral leaves entire.— *blue* *Sesleria cærulea*, SCOP. which see.

* In the *C. cristatus*, *echinatus*, *aureus*, there are generally only 2 florets in an empalement; in the *cærulea* and *aureus*, the little spikes are inserted on different sides of the spike; and in the *durus*, *coracanus*, *ægyptius* and *indicus*, the receptacle cannot be said to be leafy, as in these the fence is wanting. The *durus* is truly a *Poa*, the *Poa dura*, SCOP. and the 3 others have the habit of *Panicum*, with the structure of *Poa*, forming a natural assemblage of their own. The *Cynosurus* therefore as a natural genus seems to be confined within the following limits, *cristatus*, *echinatus*, and *aureus*. ST.

94. FESTU'CA. Fescue.

Pl. II. fig. 19.

EMPAL. *Husk* 2 valves; upright; containing several florets collected into a slender spike. *Valves* awl-shaped, tapering. *Inferior valve* the smallest.

BLOSS. Two valves. *Inferior valve* the figure of the empalement but larger; rather cylindrical but tapering, and ending in a sharp point.

CHIVES. *Threads* 3; hair-like; shorter than the blossom. *Tips* oblong.

POINT. *Seedbud* turban-shaped. *Shafts* 2, short, reflected. *Summits* simple.

S. VESS. The blossom shuts close upon the seed, and does not open again.

SEED. Single; slender; oblong; very sharp pointed at each end, with a furrow running lengthways.

ESS. CHAR. *Empal.* 2 valves. *Little spike* oblong; almost cylindrical. *Husks* tapering to a point.

OBS. Scopoli says, that he cannot discover any mark of distinction between *Festuca*, *Bromus*, and *Triticum*. *Bromus* and *Triticum* are indeed only one genus. *Bromus* is only a paniced *Triticum*. In *Festuca* the outer valve of the blossom gradually narrows into the awn, whereas in the *Bromus* or *Triticum*, the awn is inserted as it were, below the point of the valve, or the edge of the valve swells out into a thin membrane on each side of the base of the awn. In *Festuca*, the awn is an extension of the whole valve, in *Bromus* and *Triticum*, only of the keel or middle rib, as in *Avena*. ST.

* *Panicle* pointing one way.

barren FESTU'CA *bromoides*. Panicle pointing one way. Little spikes upright, smooth. Empal. valves, 1 entire, the other tapering to a point.—

It differs from the *F. myurus* by the panicle somewhat resembling a spike, and the husks not being fringed. It is like the *F. ovina*, but has broader leaves. LINN.—*Panicle* broader and shorter than in the *F. myurus*, the *Spiculæ* are also larger and broader. *Straw* with 3 or 4 joints. RAY.

Gram. bromoides panicula heteromalla, &c. Scheuch. 290. t. 6. f. 10. is the plant of our herbariums, and I believe that of Linn. (and not *Gram. paniculat. bromoides*, &c. Scheuch. 297. as Linn.) for in Scheuch.

Scheuch. plant 1 of the valves of the empalement ends in an awn, whereas in Linnaeus's, it is, as in ours, simply tapering to a point.

Pluk. 33. 10.—Scheuch. 6. 14, a little spike.

Walls and dry sandy places.

A. June. July.

FESTU'CA *ovi'na*. Panicle pointing one way; *sheeps* compact, awned. Straw 4 cornered, almost naked. Leaves bristle-shaped.—

Pluk. 34. 2.—Mus. rust. iv. 2. 4.—Anderson.—Leers 8, 3 and 4 panicles.—Scheuch. 6. 8.—Mont. 5.—H. ox. 8. 3. 13, little spikes sitting and spear-shaped.

Very small; scarcely exceeding 6 inches in height. Mr. DICKENSON.—Lower little spikes on fruit-stalks: 4 florets in each, with the rudiment of a fifth.

α. aristata. Leers 8. 3.—Scheuch. 6. 6.—Mont. 5.

awned

Little spikes pubescent. Florets awned, pubescent, often fringed.

LEERS. ST.

β. mutica. Stillingf. 8.—Leers 8. 4. † —Scheuch. 6. 6.

awnless

Panicle narrower. Little spikes smaller. Florets without awns.

LEERS. ST.

γ. vivipara. Scheuch. pr. 1. 2; cop. in Scheuch (J. Jac.) it. vi. viviparous p. 458. f. 20.—Ray 22. 1.—Barr. 272.

Mountains in Wales, Yorkshire, and Westmoreland.

Florets 3 to 6 in each little spike: they are generally tapering to a point, or an awn-like point, but very seldom properly awned. HUDS.

Dry gravelly soil. [Malvern Hill and Chace. Mr. BALLARD. On the summits of Skiddow and Ingleborough. Mr. WOODW.]

P. June. July.

It flourishes best in a dry sandy soil: Cows, Horses, and Goats will eat it, but it is the favourite food of Sheep: they prefer it before all other grasses, and are said soonest to grow fat upon it; for though small, it is succulent. The Tartars who lead a wandering life, tending their flocks and herds, always choose those spots where this grass abounds. Is not the superiority of the Spanish and English wool owing to the abundance of this grass in the hilly pastures where the sheep are kept?

FESTU'CA *ru'bra*. Panicle pointing one way; *purple* rough. Little spikes with 6 florets, awned. Floret at the end awnless. Straw semi-cylindrical.—

Scheuch. 6. 9, branch of the panicle, little spikes open.—Leers 8. 1, branch of the panicle, little spikes closed.—Stillingf. 9, ill done.—(Andersf. more like a Poa.)

It is distinguished from the *F. ovina* by its size, its red colour when ripe, its broader leaves, and its nearly semi-cylindrical straw.

TRIANDRIA DIGYNIA.

It differs from the *F. duriuscula* in its broader and flat stem-leaves, in its little spikes being somewhat larger, and its panicle less compressed. The bristle-shaped root-leaves, and the very short awns distinguish it from the *F. myurus*. POLlich.—Leaves on the upper side covered with a soft woolliness barely perceptible to the naked eye. Straw smooth, but within the panicle rough: green, but when the seeds are ripe, red. LINN.—Panicle branches generally single, but frequently in pairs. SCHEUCH.—Taller than the *F. duriuscula*, and distinguished from it by broader leaves, and little spikes with awns. MR. DICKENSON.

High heaths and dry barren pastures.

P. July.

red FESTU'CA *amethys'tina*. Panicle waved. Little spikes nearly awnless, bent inwards, pointing one way. Leaves bristle-shaped.—

Linn. mentions this as being a native of England. ST.—Haller considers it as only a variety of the *F. ovina*. P.

hard FESTU'CA *durius'cula*. Panicle pointing one way; oblong. Little spikes oblong, smooth, 6 florets in each. Leaves bristle-shaped. LINN.—Panicle branched; branches mostly in pairs. Little spikes awned. Root-leaves bristle-shaped. HUDS.

Ray 19. 1.—Leers 8. 2, branch of the panicle.—Lob. obs. 9. 2.—(*H. ox. viii. 2. row 3. 11. is referred by Linn. to the F. dumetorum. —In H. ox. viii. 3. 13, the little spikes are sitting.*)—Fl. dan. 848, cannot be the plant, as the florets are pubescent.

It resembles the *F. dumetorum* in its thread-shaped channelled root-leaves, and its flat grass-like stem-leaves, but differs in having its husks smooth. LINN.—Stem and root-leaves bristle-shaped. Little spikes small, egg-shaped; with very short awns. Panicle more contracted distinguishes it from the *F. rubra*. Its cylindrical straw, and the constant presence of the very short awns, from the *F. ovina*. POLlich.—It varies in its root-leaves being bristle-shaped and thread-shaped, and rough: in its stem-leaves being flat and channelled, and bare: in its little spikes containing from 6 to 10 florets, and pubescent. HUDS.—Hardly to be distinguished from the *F. ovina*, but by being taller. It is about 12 inches high. MR. DICKENSON.—Empal. smooth; one valve twice as large as the other.

Dry pastures.

P. June.

pubescent FESTU'CA *dumeto'rum*. Panicle spike-like, pubescent. Leaves thread-shaped.

Fl. dan. 700.—H. ox. viii. 2, figure the last?

Straw

Straw 12 or 18 inches high, thread-shaped, cylindrical, with 2 swelled joints. *Root-leaves* 1 foot long; roundish, scarcely 2 edged. *Stem-leaves* shorter, channelled. *Panicle* small, spike-like. *Little spikes* 10 or 12, oblong, pubescent, greyish; the upper ones sitting, solitary: the lower ones in pairs, on fruit-stalks. *Husks* terminating in a minute awn. Figured in *Moris. hist.* 3. § 8. t. 2. fig. the last. Bulbs often grow within the sheath of the straw. Very nearly allied to the *F. duriuscula*. LINN.

Festuca duriuscula dumetorum. HUDS. ST.—*Gram. prat. paniculat. elat.* Sc. var. *locust. villosis*. SCHEUCH. p. 290.

Woods and hedges.

P. June. July,

FESTU'CA *myu'rus*. Panicle spike-like. Empale- wall
ments very minute, awnless. Florets rough; awns long.
LINN.—Panicle pointing one way; strap-shaped, rough;
branches mostly solitary, contiguous. Husk with 1
valve extremely short. HUDS.

Leers 3. 5, panicle.—Barr. 99. 1.—*H. ox.* viii. 7. 43.—Scheuch.

6. 12, branch of the panicle.—*Ger. em.* 29. * 2, cop. in Park.

1162. 8. (*Gouan. hort.* 48. 1, and Barr. 100, different plants.)

The awn grows from beneath the point. HALL.—Florets 5 in
each little spike. Panicle branched, but not spreading: very long,
slender, and bending.

Gram. festuaceum myurum elat. Sc. Scheuch. 293. t. 6. f. 11, and
Barr. 99. 2; cop. in Pet. ii. gram. ital. 5. 10, are the plant of our herba-
riums, as it appears to be that of Pollich, (and not *Gram. fest. myur. minor.*
Sc. Scheuch. 294, as Linn.) ST.

Capons-tail-grass.—Walls and dry barren places.

A. June.

FESTU'CA *glabra*. Panicle branched, upright, smooth
compact. Little spikes awl-shaped, of 3 florets, awned,
smooth. LIGHTF.—(Nearly allied to the next species, if not
the same. HUDS.)

See also a description in Lightf. Fl. Scot. p. 1085.

Found at Ardbigland in Galloway, by Mr. Lightfoot. P. July.

FESTU'CA *cam'brica*. Panicle pointing one way, Welsh
oblong, upright, branched. Little spikes awned, smooth.
Leaves flat, naked. HUDS.

Root fibrous. *Straw* near a foot high; slanting, cylindrical,
leafy, smooth; with 2 or 3 joints. *Root-leaves* nearly upright;
sword-shaped, sharpish, channelled. *Stem-leaves* 2 or 3; on leaf-
stalks; sharpish, flat, fibrous. *Leaf-stalk* cylindrical, sheathing,
tored, hairy. *Props* membranaceous, sheathing, blunt. Panicle

rather compact, branched at the bottom. *Little spikes* on fruit-stalks, about 6 florets in each, egg-shaped. *Awns* short. *Fruit-stalks* nearly as long as the spiculæ. Nearly allied to the *F. duriuscula*. HUDS.

On the highest hills about Llanberis, plentifully. P. July. Aug.

tall FESTU'CA *ela'tior*. Panicle pointing one way; upright. Little spikes mostly awned; the outer ones cylindrical. LINN.—Branches in pairs. Little spikes egg-shaped. Leaves flat. HUDS.

Schreb. 2.—Leers 8. 6.—Schench. 5. 18, a branch of the panicle.—

H. ox. viii. 2. 15.

Agrees in many respects with the *F. fluitans pratensis*. Its claim to a distinct species may be justly doubted. HUDS.

α. Broad-leaved. β. Narrow-leaved. Buxb. v. app. 16.

Gram. arundinac. locust. &c. SCHEUCH. 266. (as in Linn. syst. veg. but improperly omitted in Syst. plant. a Reich. ST.)

Meadows, pastures, and sides of hedges. P. June. July.

It makes an excellent pasture, but requires a rich soil. LINN.

Horses, Cows, Sheep, and Goats eat it.

flote FESTU'CA *flu'tans*. Panicle branched, upright. Little spikes nearly fitting, cylindrical, awnless. LINN.—Panicle pointing one way; its branches solitary and in pairs. Little spikes strap-shaped. Leaves flat. Straw 2 edged. Fl. dan.

common α. Curt. 1. 6.—Leers 8. 5, a portion of the panicle.—Schreb. 3. (f. 2, out of blossom.)—Fl. dan. 237.—Stillingf. 10.—H. ox. viii. 3. 16.—Ger. em. 14. 1, cop. in J. B. ii. 490.—Muf. rust. iv. 1. 6.—C. B. th. 41, cop. in Park. 1275. 8.—Schench. 4. 5, branch of the panicle.—Mont. 35, a little spike. (Buxb. iii. 54, branches of the panicle twice divided. Its habit, as also that of Barr. 7, induce me to believe it with Buxbaum to be a distinct species. —Muf. rust. iv. 2. 6, is *Poa pratensis*.)

Shafts naked below, and not feathered down to the base as in Schreber's fig. Seed crowned with 2 little horns, the remains of the shafts; sometimes affected with the disease called Ergot. CURT.—EMPAL. 2 skinny spear-shaped valves; the outer valve about half as long as the other, and less concave. They are placed at the base of a slender, cylindrical, but flattened little spike, composed generally of 10 florets. Bloss. outer valve, spear-shaped, concave, ending in a flat blunt point. Inner valve smaller, flat; the edges bent back; slightly cloven at the end into 2 sharp, but very shallow segments. CHIVES. threads very slender. Tips slightly cloven at each end. POINT: seed-bud egg-shaped, very small. Shafts expanding.

Summits

Summits beautifully fringed. SEEDS semi-cylindrical, blunt, marked with a ridge upon the flat side. Stems sending out roots from the joints. Leaves floating upon the water. Panicle very long; issuing from a long 2 edged sheath. WITH.

β. loliacea. Spiked. Little spikes alternate, sitting, flattened. HUDS. ST. Darnel

H. ox. viii. 2. 2. (a) a var. of Lolium perenne, is a good representation of it, as these plants are distinguishable only by their empalements.

F. fluitans in meadows becomes in every respect less, and the panicle is frequently changed to a simple spike. CURT. ST.

Florets 4 to 10. The seeds of *F. fluitans* sown in a garden, became this var. the first year, and the 2d year changed into the following variety. HUDS.

γ. pratensis.—*Mus. rust. iv. 2.*—*H. ox. viii. 2. 2. δ.*—*Scheuch. 4. 6, meadow branch of the panicle.*—*Park. 1146. 8, the fig. with 2 panicked straws.*

Florets blunt, but in dry situations tapering to a point. HUDS.

Gram. paniculat. elatius, paniculis, &c. SCHEUCH. 202, and also Gram. loliac. panicula, &c. SCHEUCH. 200, as Haller could not perceive any difference in the specimens of each in Scheuchzer's herbarium.

Flote grass.

Wet ditches and ponds, very common. P. June.—Sept.

The seeds are small, but very sweet and nourishing. They are collected in several parts of Germany and Poland, under the name of *Manna Seeds*, and are esteemed a delicacy in soups and gruels, upon account of their nutritious quality, and grateful flavour. When ground to meal, they make bread very little inferior to that in common use from wheat. The bran separated in preparing the meal, is given to horses that have the worms; but they must be kept from water for some hours afterwards. Geese are very fond of the seeds, and well know where to look for them. The plant affords nourishment to the *Phalæna Festuæ*.

*** Panicle equal.*

FESTU'CA *decumbens* Panicle upright. Little *decumbent* spikes nearly egg-shaped, awnless. Empalement larger than the florets. Straw decumbent.—

Fl. dan. 162.—*Fluk. 34. 1.*—*H. ox. viii. 1. 6.*—*Mont. 2. 1.*—

Panicle, &c. Leers 7. 5.—*Scheuch. 3. 16. A. B. C.*

Florets 3 in each empalement. Allied to the *Melica*. LINN.—

It should arrange with the *Melicas*. HALL.—Panicle simple. Empalement as long as the little spikes.

Barren moistish ground.

P. Aug.

Sheep refuse it.

FESTU'CA *pratensis*. Panicle upright. Little spikes *meadow* strap-shaped, without awns. Leaves flat. HUDS. *ed. I.* Mr. WOODWARD.

TRIANDRIA DIGYNIA.

There is a var. of *F. fluitans* which I have found growing along with this, in moist meadows, but the *F. pratensis* and *fluitans* are certainly distinct species. Mr. WOODWARD.

Festuca fluitans pratensis. HUDS. ed. II. which see.

spiked 2. *liacea*.—*Festuca fluitans liacea*. HUDS. ed. II. is a var. of this. Mr. WOODWARD.—I have a specimen with a single branch from the side. ST.

Meadows and pastures.

P. June. July.

Darnel FESTU'CA *liacea*. Spiked. Little spikes alternate, fitting, flattened, awnless. HUDS. ed. I. *Festuca fluitans liacea*, which see.

spiked FESTU'CA *pinnata*. Little spikes fitting. Straw undivided. Awns shorter than the blossoms. POLLICH. ST.

Barr. 25, cop. in *Pet. ii. gram. ital.* 3. 1.—*Wieg.* 1. 10, spike.—

C. B. pr. 18. 1. repr. in th. 133.—*Mont.* 16, and *Scheuch.* 1.

7. *H.* a little spike. (*Fl. dan.* 164, is referred by Hall. and Pollich. through oversight, to this as well as to the *F. sylvat.*)

Plant smooth, yellowish green. Lower leaves now and then somewhat hairy. Florets from 6 to 12. HUDS.

Festuca pinnata. HUDS.—*Bromus pinnatus*. LINN.—(*B. pinnat.* POLLICH; the *Gram. loliac. corniculat.* SCHEUCH. 35; *Triticum* Hall. 1431, seems to be a pubescent variety of this. ST.)

Chalky soils.

P. July.

wood FESTU'CA *sylvatica*. Little spikes fitting. Straw undivided. Awns as long as the blossom. POLLICH. ST.—Little spikes alternate, rather pointing 2 ways. HUDS. LIGHTF. ST.

Leers 10. 3, spike.—*Wieg.* 1. 11, and *Fl. dan.* 164, spike and leaf.

—*Bar.* 83. 2, cop. in *Pet. ii. gram. ital.* 3.—*H. ox.* viii. 6. row.

3. 4, on the left hand.

Plant hairy. Awns longer than the blossom. Florets from 6 to 12. HUDS.—Leaves rough downwards; upper surface hairy, the lower less so, sometimes smooth. Little spikes alternate, somewhat hairy; hairs short. SCHEUCH. ST.—Evidently different from the preceding. Straws with soft hairs; several from the same root. POLLICH. ST.—Straw slender; joints woolly. Spike-stalk slender, weak, and hence often pendulous. WIEGEL. ST.—Straw from $1\frac{1}{2}$ to 3 feet high, upper part of the lower joints hairy where not covered by the leaf-sheath. Leaves under surface generally hairy towards the base. Little spikes from 7 lines to 1 inch 6 lines long. *Empal.* valves tapering

ing to a point, and often ending in a short awn: that of the larger valve sometimes a line long; rough with minute points and hairs. *Bloss.* outer valve smooth along the back, but sides rough with minute hairs, which are longer towards the point of the valve; the inner rounded at the end; edges fringed with short hairs; except at the end, which is pubescent. It has the habit of a *Bromus*, the artificial characters of a *Triticum*, (see *Tritic. canin.*) but in its structure it is truly a *Festuca*. ST.

Gram. loliac. corniculat. montan. SCHEUCH. 38.—*Festuca sylvatica.* HUDS. ed. I.—*Bromus sylvaticus.* POLLICH.—*Bromus gracilis.* WIEGEL.—*Triticum sylvaticum.* MÆNCH.—*Bromus pinnatus.* LEERS. (*Gram. loliac. corniculat. latifol.* SCHEUCH. 36. HALL. 1431. d. seems to be only a var. in which the hairs of the blossom are exceedingly short. ST.)

Woods and hedges. [Worcestershire. ST.] P. July.

95. B R O ' M U S. Brome-grafs.

Pl. II. fig. 20.

EMPAL. *Husk* 2 valves, expanding; containing several florets collected into a spike. *Valves* oblong egg-shaped, taper, without awns. The *inferior valve* smaller.

BLOSS. 2 valves. The *inferior valve* large; the size and figure of the empalement; concave, blunt, cloven; sending out a straight *awn* from beneath the end. The *superior valve* spear-shaped, small; awnless.

CHIVES. *Threads* 3; hair-like; shorter than the blossom. *Tips* oblong.

POINT. *Seed-bud* turban-shaped. *Shafts* 2; short; woolly; reflected. *Summits* simple.

S. VESS. The blossom shuts close upon, and adheres to the feed.

SEED. Single, oblong, covered; convex on one side, furrowed on the other.

ESS. CHAR. *Empal.* 2 valves. *Little spikes* oblong, cylindrical. *Florets* pointing from two opposite lines. *Awn* issuing from beneath the end.

BRO'MUS secalinus. Panicle expanding. Little *spikes* egg-shaped. *Awns* straight. *Seeds* distinct. *Husks* smooth. LINN.—Little spikes upright. Blossom, inner valve rounded at the end. ST.

Leers 11. 2, branch of the panicle, (C. S.) little spike ripe.—*Scheuch.*

5. 10.—*Wieg.* 1. 2, little spike ripe.—*J. B.* ii. 438, ripe.—

C. B. th. 143, the branch on the left hand.

Little spikes when ripe two rowed, and 3 or 4 lines broad. Florets from 7 to 11, smooth, greenish, membranaceous at the edge. Blofs. outer valve cloven, or almost hollowed at the end. Awn from the base of the cleft. *SCHEUCH. ST.*—Leaves with short hairs on each side. Panicle branches, some simple, others branched. Empal. rather blunt, 2 to 3 lines long. Blofs. blunt. Awn 3 lines long. *PÖLLICH. ST.*—Empal. and Florets roughish. Blofs. outer valve with 7 ribs, dotted. Awn as long as the valve. *LEERS. ST.*—Little spikes 8 or 10 lines long. Empal. ribbed. Blofs. outer valve oblong, tapering below; not glossy, ribs not prominent; greener than the rest of the valve, each on the outside appearing as if composed of 2 lines. *ST.* *Festuca gramin. glum. glabris. SCHEUCH.*

251. *Bromus villosus. WIEG.* except that the leaves are described as being smooth, and the awn as short again as the blossom. *ST.*

In corn fields only. *DILL. R. Syn.*

hairy β. Husks hairy. *LINN.*—Panicle nodding when ripe. Blofs. outer valve tapering upwards. *ST.*

Scheuch. 5. 9, little spike, one of the larger size.—*H. ox.* viii. 7.

16, with a little spike of the natural size: seeds ripe.—*C. B. th.* 143.

(*Park.* 1150. 2, ill done, if the plant.)

Husks, hairs wearing off by age. *HALL. LIGHTF.*—Leaves hairy above; rough, but free from hairs underneath. Empal. inner valve sometimes ending in an exceedingly short awn: $3\frac{1}{2}$ or 4 lines long; outer 3 and $3\frac{1}{2}$ long. Florets, the lowermost 4 and 5 lines long. *SCHEUCH. ST.*—Blofs. inner valve oblong egg-shaped, nicked at the point, and readily separating down to the insertion of the awn. Awn from $2\frac{1}{2}$ to 5 lines long. *ST.*

Corn fields.

A. May. June.

compact. 3. hordeaceus.

Panicle upright, contracted. *LINN.*—Florets tiled. Blofs. inner valve smooth, rounded at the end. *ST.*

Cultivated in a garden it became var. α. *LINN.*—Little spikes yellowish, sometimes only 2, or even only a single one terminating the straw. *LEERS. ST.*—Straw from 9 to 36 inches high; when dwarfish almost thread-like. Leaves pubescent on both sides, with soft longer hairs on the upper surface. Leaf-sheaths, lower hairy, upper smooth. Panicle when present about 4 inches long, simple. Little spikes 5 or 6 lines long, tapering to a point, from $1\frac{1}{2}$ to 2 lines broad. Florets from 3 to 7, but mostly 6; the lowermost 3 lines long. Empal. blofs. structure and admeasurement as *B. secalin.* α.—*Leers* considers it as a var. of the *B. mollis*, but I have found plants

of

If the latter growing amongst them, with the habit as well as structure peculiar to that species. ST.

Bromus polymorphus. δ. HUDS.—*Bromus mollis*. γ. HUDS.—Plant entirely smooth. HUDS. but this does not accord with the observation of any of the authors quoted above. ST.

Hills and rocky barren places. LINN.—Meadows both dry and moist. RAY.—[Near Kemsey and Ridd Green, Worcesterfh. ST.]

A. May. June.

The feeds, mixed with corn, may be used to make bread; but when in too large a proportion they render the bread brown and bitter, and they who eat it experience a temporary giddiness.

The panicles are used by the common people in Sweden for dying green.—This grass is eaten by Horses, Cows, Goats, and Sheep.

BROMUS mollis. Panicle rather upright. Spikes soft egg-shaped, downy. Awns straight. Leaves with very soft wool. LINN.—(Little spikes sometimes smooth. See Scheuch. and Curt. ST.)*

Leers 11. 1, panicle.—Schreb. 6. 1.—Curt. 1. 3, little spikes smooth.

—H. ox. viii. 7. 18.—Wieg. 1. 4, a little spike.—Scheuch. 5.

12, branch of the panicle, the little spikes smooth.—Barr. 83. 1, not a good resemblance. (85. not a grass.)

Resembles the *B. secalinus*, but is white with soft downy hairs. The joints are thicker, cylindrical, and very hairy on the lower part. Leaves extremely soft on both sides; scored. Panicle on a short foot-stalk. LINN.—Little spikes, about 7 florets in each. Empal. outer valve smaller than the inner. Blofs. valves very slightly cloven at the end; the upper valve flat, fringed at the edge with bristly hairs. Tips edged. Shafts none. Summits woolly. Straw with 5 or 6 crooked joints. Root fibrous. The whole plant covered with soft hairs. WITTH.

Oat-grass is the name by which it is known to farmers, and they sow it along with clover. WITTH.

α. Whole plant covered with a soft hairiness. HUDS.

woolly.

Little spikes from 4 to 8 lines long, and $1\frac{1}{2}$ to $2\frac{1}{2}$ broad. Empal. inner valve 3 and 4 lines long, outer narrower, and about a line shorter. Florets tiled, the lowermost about 4 lines long. Blofs. blunt at the end. Awns from 3 to 5 lines long. SCHEUCH. ST.—Fruit-stalks generally supporting only 1 flower, but sometimes 2. Little spikes upright. Blofs. outer valve slightly cloven at the point; segments pointed. Shafts inserted below the point of the seed-bud.

LEERS,

* Mr. Hudson considers the *B. mollis* and *secalinus* as varieties of one species.

—*B. polymorphus*. Scop.—Panicle nearly upright, and nearly simple. Little spikes egg-shaped. Florets blunt. Awns straight. HUDS.

LEERS. ST.—*Shafts* from one side of the seed-bud. CURT. ST.—*Panicle* when in fruit closely contracted. *Little spikes* egg-spear-shaped, and spear-shaped, tapering to a point. *Florets* 5 to 14. *Bloss.* outer valve only slightly nicked at the end, but easily separating down to the insertion of the awn; awn inserted about $\frac{1}{2}$ a line below the point. ST.

Gramen. avenac. villos. &c. SCHEUCH. 253. n. 4. (SCHREB. POLLICH. ST.)

Meadows, pastures, walls, hedge banks. [In corn fields and uncultivated places. LEERS.] May. June

dwarf 2. *B. nanus.* (RETZ. scand. ST.)—*Little spikes* few, on short fruit-stalks, upright, flattened, trowel-egg-shaped. *Husks* somewhat tiled, pubescent, pointed. *Awns* shorter than the blossoms, straight. WIEG. ST.

Wieg. 1. 9.

Straw 2 to 3 inches high; with 3, 2, and sometimes only 1 little spike. *Husks* tiled. WIEG. ST.

[Barren soil, near Stourbridge. ST.]

smoothish. β . Leaves hairy. *Panicle* smoothish. HUDS. WITH.

Gramen. &c. SCHEUCH. *ib.* *Husks* almost entirely smooth. ST.—*Florets* 6 in each little spike. *Straw* mostly with 4 joints. WITH.

smooth- δ . Lower leaves somewhat hairy. *Panicle* smooth. HUDS.—*Husks* husked. smooth. *Bloss.* upper valve tapering upwards; ribs prominent. ST.

H. ox. viii. 7. 19.

Meadows and pastures.

A. May. June. HUDS.

Dry places. B. LINN.

open-awned BRO'MUS *squarrosus*. *Panicle* nodding. *Little spikes* egg-shaped. *Awns* straddling. LINN.—*Panicle* simple, somewhat nodding. *Florets* blunt. HUDS.—(*Panicle* scattered, nodding as it ripens. HALL.—*Little spikes* at first spear-shaped, afterwards oblong. ST.)

Barr. 24. 1, ripe, with little spike and floret.—Scheuch. 5. 11, little spike, ripe.—Mont. 32. (Barr. 24. 2, appears dubious, and 9. 1, seems to be *B. distachyos*.)

Awn awl-thread-shaped, at the base flat within, keeled without, and by no means of the structure of that of *Avena*, to which Haller has referred it. ST.—*Panicle* nodding. *Spikes* smooth, egg-shaped, each on a little pedicle thread-shaped, but thicker towards the top. *Awns* straddling. LINN.

Corn fields near Glastenbury, Somersetshire, and Marshfield, Suffex. HUDS.

A. July.

upright BRO'MUS *erectus*. *Panicle* nearly simple, upright. *Little spikes* egg-oblong. *Florets* taper pointed, awned, smooth.

smooth. HUDS.—*B. racemosus*. Bunch quite simple. Fruit-stalks with 1 flower. Little spikes with generally 6 florets. Beak, awned. LINN.? * (HUDS.)

(*Pluk.* 299. 2. †—*H. ox.* viii. 7. 13, with a little spike, are referred to by Hudson, but by Linn. to *B. tetorum*.—*H. ox.* cannot be the plant, as the florets are represented as rough, neither is it the *tetorum*, as they are not hairy.)

Leaves flat, and in dry situations edges rolled in, hairy. Panicle simple. HUDS.—Awns a continuation of the keel of the blossom, thus forming the connecting link between this genus and *Festuca*. Mr. WOODWARD.

Meadows and chalky pastures. [Ditchley Park, Oxfordshire, and near Oxford. Mr. WOODWARD.] P. June. July.

B. arvensis. Panicle somewhat branched, smooth. Little spikes egg-shaped, smooth. Florets 5 to 8, awned. Awns straight, short, HUDS.—Lower part of the panicle nodding. Mr. WOODWARD.

Bromus arvensis. LINN.? (HUDS.)

Does not accord with Linnæus's description of this species. Besides it is perennial. Mr. WOODWARD.

Cornfields. [Growing intermixed with α in Ditchley Park. Mr. WOODWARD.] P. June. July.

BROMUS madritensis. Panicle between open and upright. Little spikes strap-shaped; the intermediate ones in pairs. Pedicles thicker upwards. LINN.—Panicle simple. Florets taper pointed, rough. Awns long. HUDS. ‡
Barr.

* Panicle consisting of an undivided bunch. Fruit-stalks alternate, generally solitary; 1 floret on each. Florets egg-shaped, tapering to a point. Leaves woolly underneath. LINN.

† I have a specimen gathered by Mr. Pitchford, but where he does not now recollect, exactly resembling this figure, but extremely different from the *B. tetorum*. Mr. WOODW.—A little spike communicated to me by Mr. W. accords perfectly with my foreign specimens of *B. tetorum*, except in the absence of the pairs of the outer valves of the blossom, probably the effect of age, the seeds being ripe. ST.

‡ *BROMUS*. Panicle upright, contracted. Little spikes strap-shaped. Florets taper-pointed, rough. Awns shorter than the florets. ST.

Scheuch. 5. 13, two little spikes.—*H. ox.* viii. 7. 13.

Leaf-sheaths with scattered hairs. Little spikes as much as an inch long, and when the florets open, 3 lines wide. *Empal. valve* tapering to a point, membranaceous at the edge, the inner 5 lines long. Florets woolly, with very short hairs. Fruit-stalks pubescent. Awns from $1\frac{1}{2}$ to 2 lines long. SCHEUCH. ST.—Little spikes very like those of *B. asper*. Florets generally 10, tapering to a point

Barr. 76. 1.

Straws 2 feet high, sleek, joints swollen. Leaves broadish, soft. Panicle loose, with no great number of little spikes. Little spikes straight, nearly upright, in threes, each of which generally on a fruit-stalk, and sometimes a fourth, with mostly 2 on a fruit-stalk. Awns long, upright. LINN.—*Empal.* greater valve 4 or 5 lines long; lesser $2\frac{1}{2}$ or 3 long. Florets 5 or 6, 6 and sometimes 4 lines long. Awns 7 and 8 lines long. Bloss. valves with close short hairs at the edges. Awns 7 and 8 lines long. SCHEUCH.

Bromus muralis. HUDS. who has assigned no reason for changing the name given it by Linnæus. ST.

On old walls about London and Oxford. HUDS. [Severn Stoke, Worcesterhire. ST.] A. May.

hairy-stalked

BRO'MUS *asper*. Panicle nodding, rough. Little spikes woolly, awned. Leaves rough. LINN.—Panicle branched; branches in pairs. Little spikes strap-shaped, round, longer than the awns. HUDS.—Awns straight. Leaf-sheaths hairy. CURT.—Awns shorter than the florets. HALL. ST,

Curt. ii. 13, panicle just expanded.—H. ox. viii. 7. 27, florets open.

—(Mont. 2, and Barr. 84, not the plant.—Vaill. 18. 2, seems a different plant, though the single little spike resembles it.)

Panicle branches sometimes in threes. CURT.—*Empal.* florets 6 to 12. VOGLER.

Bromus ramosus. HUDS. ed. I. LINN. syst. veg. p. 102.—LIGHTF. 1087. *—*hirsutus*, CURT.—*nemoralis*, HUDS. ed. II.—*sylvaticus*, VOGLER. *schediasm.*—*altissimus*, WIGGERS.—*Bromus montanus*. RETZ. scand. and obs. ii. n. 4, as it should seem from the specimens communicated to him by Messrs. Ehrhart and Dryander; but his characters of "*Empal.* with 6 florets," ill agrees with it. (Not *B. montanus*, POLLICH. in which "The branches of the panicles are in two's, three's, and four's," and the blossom only 1 line longer than the awn.)

(*Bromus versicolor*. POLLICH. the *Brom. fol. hirsut.* &c. HALL. 1503, is a different species. ST.)

Woods and hedges, frequent.

A. July. Aug.

barren

BRO'MUS *sterilis*. Panicle open. Little spikes oblong, florets pointing 2 opposite ways. Husks tapering and awned.—

Curt.

point at the base. Corresponds, except in the length of its awns, with the descriptions of the *B. madritensis*, of which it is probably only a variety. ST.

Gram. bromoides pratense, &c. SCHEUCH. 255.—*Bromus hirsutus angustifol.* &c. HALL. 1507.—*Bromus sylvaticus* when growing in open situations. VOGLER *schediasm.* p. 4. ST.

Curt. 1. 4.—*H. ox.* viii. 7. 11.—*Leers* 11. 4, branch, &c.—*Mont.* 1, little spike.—*Dod.* 540. 2, repr. in *Lob. obs.* 20. 1, and *Ger. em.* 76. 1, and cop. in *Park.* 1148. 1.—*Ger.* 69. 1, repr. in *C. B. th.* 146.—*Math.* 1205.—*J. B.* ii. 439. 2.—*Scheuch.* 5. 14, little spike.—(*Park.* 1148. 2, seems to be the *B. tectorum.*)

Shafts from the middle of the feed-bud. *CURT.*—Little spikes widening towards the point. *WIEG. ST.*—Panicle nodding, branched; branches in fours. *HUDS.*—(In fours and sixes. *POLLICH.* threes and fours. *WIEG. ST.*)—Fruit-stalks generally with only 1 little spike, but sometimes 2. *LEERS.*—*Empal. valves* very slender, taper, and skinny at the edges. *Bloss.* outer valve skinny at the edges, cloven, and furnished with an awn nearly twice its own length. *Inner valve* flat, fringed at the edges. *Tips* orange colour. *Florets* 6 or 7 in each little spike. *Little spikes* on very long fruit-stalks, 4, 5, or 6 issuing from the same point. *Leaves* ribbed, hairy, not very harsh; the uppermost leaf nearly as tall as the panicle. *WITH.*

Woods and hedge sides, frequent.

A. June. July.

BRO'MUS arven'sis. Panicle nodding. Little spikes *corn* oblong egg-shaped.*

Fl. dan. 293.

Straw 5 inches high. *Root-leaves* awl-shaped, smooth, channelled, stiff. *Panicle* close, consisting of 8 or 10 little spikes. *Little spikes* almost fitting, and growing on one side of the stalk; smooth, awnless, consisting of 5 florets. The above differences possibly occasioned by the sea water, and the poverty of the soil. *LIGHTF.*

Shores of the isle of Oransey. *LIGHTF.*

A. July.

* Three distinct plants seem to have been referred to this species.

(1.) *Fl. suec. n.* 97.—*Leers n.* 84. 1. 11. f. 3.—*Little spikes* strap-shaped, at first egg-shaped at the base, and tapering, 3 times as long as the empalement, pubescent in the microscope. *Empalement* egg-shaped. *Awn* somewhat longer than the blossom. *ST.*

(2.) *Scheuch. p.* 262. 1. 5. f. 15.—*Pollich. n.* 113.—*Little spikes* strap-spear-shaped, about as long again as the empalement. *Empalement* spear-shaped. *Awn* somewhat shorter than the blossom, and almost from the very point of the valve. *ST.*

(3.) *Fl. dan. t.* 293.—*Scheuch. p.* 251. n. 2, variety without awns.—*Wieg. obs. n.* 3. t. 1. f. 3; who doubts, and, I think, with propriety, whether it be not a variety of his *B. villosus*, the *B. secalinus* α.—*Lightf. p.* 104.—*Little spikes* oblong egg-shaped. *Husks* smooth, tiled, blunt. *Empalement* egg-shaped. *Awn* half as long as the blossom; sometimes wanting. *ST.*—I have a specimen of this with awns of some length from an excellent botanist, but where gathered I do not know. *MR. WOODWARD.*

B R O ' M U S

tall BRO'MUS *giganteus*. Panicle nodding. Little spikes with 4 florets, shorter than the awns. LINN.—Little spikes spear-shaped. SCHREB. ST.—Branches in pairs. SCOP. HUDS. ST.—Panicle branched. Little spikes with about 4 florets. HUDS.

Schreb. 11.—Leers 10. 1, two branches of the panicle.—Vaill. 18. 3.—Scheuch. 5. 17, branch of the panicle.—Wieg. 1. 5, little spike.—Scheuch. 5. 19, a good representation of the smaller spikes, but does not accord, as Retz. remarks obs. i. n. 11.—Mont. 71; awns too short.—(Fl. dan. 440, has branches in pairs, and not several from a joint, as the triflorus, to which Linn. has referred this fig. though with a note of doubt, is described by SCHEUCH. but they expand different ways, as in the *B. patentissimus* of WIEG. who regards it as an awned variety of that species.)

Panicle branches 2 from each knot. LINN.—Sometimes 3. SCHEUCH. ST.—Leaves bordered at the base on each side with a gristly membrane, upper surface and the under towards the end rough downwards. Sheaths sleek, except the lowermost, which are rough (upwards). Empal. with from 3 to 7 florets. Blofs. inner valve as long or longer than the other. Awn finer than a hair, somewhat winding. LEERS. ST.—Branches lengthened out. Little spikes at first roundish, when at maturity somewhat flattened. WIEG. ST.—Empal. sleek, glossy. Blofs. rough downwards, not hairy, as Wieg. Branches in pairs, almost to the point of the panicle. ST.—Straw 5 feet high. Leaves half an inch broad. WITH.

Græmen. bromoid. montan. &c. Scheuch. 263. t. 5. f. 16, also referred to by WIEG. is the *B. montanus* of SCOP. and POLLICH. ST.

Woods and moist hedges.

P. July. Aug.

Cows, Horses, Goats, and Sheep eat it.

spiked BRO'MUS *pinna'tus*. Straw undivided. Little spikes alternate, nearly fitting; cylindrical, somewhat awned. LINN.—Festuca pinnata. HUDS. which see.

Little spikes with their flat sides turned towards the straw. Awns terminating. Leaves flat. LINN.

Dry mountainous Woodlands.

P.

96. S T I' P A. Feather-grafs.

Pl. II. fig. 14.

EMPAL. *Husk* 2 valves, taper, flexible; inclosing 1 floret.

BLOSS. 2 valves. *Outer valve* terminated by a very long, straight, twisted awn, jointed at the base. *Inner valve* strap-shaped, without an awn; as long as the outer valve.

CHIVES. *Threads* 3; hair-like. *Tips* strap-shaped.

POINT. *Seed-bud* oblong. *Shafts* 2; hairy; united at the base. *Summits* downy.

VESS. The husk adhering.

EED. Single; oblong, covered.

ESS. CHAR. *Empal.* 2 valves, containing 1 floret. *Bloss.* outer valve terminating in an awn. Awn jointed at the base.

STI'PA *penna'ta*. Awns woolly.—

downy

H. ox. viii. 7. row. 3. 9.—*Barr.* 46.—*C. B.* 71.—*Clus.* ii. 221.

3, repr. in *Ger. em.* 42. 6.—*J. B.* ii. 512. 2.—*Flower*, Mont.

68.—*Blossom*, Scheuch. 3. 13. B.

Two branches spring from the first joint of the panicle; only 1 from the others, and that generally undivided. *Husks* smooth. *Petal*, the larger one woolly, except at the top, from which rises the awn. Base of the awn twisted like a rope; above the twisted part it is bent; and above the bend it begins to be hairy. The feathery part of the awn is many times the length of the whole panicle; but the naked part not more than half as long. SCOP.—*Awns* from 6 to 12 inches long, or more; set with very fine, white, soft, pellucid, diverging hairs. WITH.

Mountains. [Near Kendal, Westmoreland. Mr. ALDERSON.]
P. July. Aug.

97. A V E' N A.

97. AVE'NA. Oat.

Pl. II. fig. 21.

EMPAL. *Husk* 2 valves; frequently containing several florets loosely collected. *Valves* large, loose, spear-shaped, distended; sharp; without awns.

BLOSS. 2 valves. *Inferior valve* the size of the husk, but harder; somewhat cylindrical, distended, tapering towards each end, sending out from its back an awn, spirally twisted, and bent back as if jointed.

CHIVES. *Threads* 3; hair-like. *Tips* oblong; forked at each end.

POINT. *Seed-bud* blunt. *Shafts* two; reflected; hairy. *Summits* simple.

S. VESS. The *Blossom* shuts close upon, and adheres to the seed without opening again.

SEED. Single; slender; oblong; tapering at each end; marked with a furrow lengthways.

ESS. CHAR. *Bloss.* 2 valves, containing several florets. *Awn* upon the back; twisted.

OBS. The twisted and jointed awn issuing from the back of the blossom, constitutes the essential character.

tall AVE'NA *elatior*. Panicked. Two florets in each empalement; one containing chives and pointals, nearly awnless; the other with only chives, awned.—

Schreb. 1. (α)—Curt. iii. 32.—H. ex. viii. 7. 38.—Park. 1176. 1.

—C. B. th. 18.—J. B. ii. 456.—Ger. em. 23.—Fl. dan. 165.

(α)—Branch of the panicle, &c. Leers 4. 4.—Scheuch. 4. 27 and 28.—(H. ex. viii. 7. 37, appears to be *Agrostis arundinac.* and Lob. adv. 2. 2, is not the plant.)

Empal. lower valve much smaller. SCHEUCH. Mr. HOLLEFEAR.

—Frequently only 1 floret awned. Mr. WOOD.

fibrous. α. Base of the straws not knobbed. (Figures marked α.)

knobbed. β. Base of the straw knobbed. (The rest of the figures.)

Empal. outer valve smaller, and $\frac{1}{2}$ shorter than the other. Florets 1 fitting, and the awn fixed near to the base; the other on a short fruit-stalk, and the awn fixed nearest to the end. Bloss. hairy at the base. Seed-buds downy. The sitting floret generally barren. Straw about 5 feet high, with cylindrical woolly joints. Leaves rough. Root a double pear-shaped bulb, one above the other. Grows in damp ground. WITH.

Tall oat-grass.

Meadows.

Meadows, pastures, and hollow-ways. P. June. Aug.

Cows, Sheep, and Goats eat it.—The roots are sometimes very troublesome to the farmers in arable lands. ST.

AVE'NA *nu'da* Panicked. Empal. with 3 florets. *naked*
Receptacle longer than the empalement. Petals awned
upon the back. The 3d floret awn-lefs.—

H. ox. viii. 7. 4.—*Ger.* 68. 2, repr. in *C. B.* 471, and cop. in
J. B. ii. 433, cap. xxi.—*Dod.* 511. 2, repr. in *Ger. em.* 75.
2, ill cop. in *Park.* 1134. 2.

The feeds when ripe fall out of the hulks. LINN.—*Little spikes*
with 2 or 3 florets. Awn neither twisted nor jointed. HALL.

Staffordshire. PLOT.—Cultivated in Cornwall. RAY. A. July.
Pilcorn. *Pillis.*

This is nearly as good as the cultivated oat; it will make gruel or
oat cake, and feed cattle as well as that. Ray says it fells in Corn-
wall at the price of wheat.

AVE'NA *fat'ua*. Panicked. Empal. with 3 florets, *bearded*
all awned, and hairy at the base.—

Leers 9. 4, *little spike*, &c.—*H. ox.* viii. 7. 5, empal. hairy, and
only 1 of the florets awned.—*Barr.* 75. 2, is a pretty exact repre-
sentation of it, but, from the separate little spike, which is $1\frac{1}{2}$ inch
long, I suspect it will prove to be the *A. sterilis*.—*C. B.* 149. 2. 3.
4, branch of the panicle, &c.—(*Schreb.* 15.—*Scheuch.* 5. 1.—
Dod. 539. 2, repr. in *Lob. obs.* 20. 3; *Ger. em.* 77, † and cop.
in *Park.* 1148. 4; and *J. B.* ii. 433, fig. the last, appear to me
to be the *Avena sterilis* of Linn. and Virgil. In all of them the
branches of the panicle are undivided as in the *sterilis*.—*C. B.* 149.
1, is *Andropogon gryllus*.)

Taller than the *Avena sativa*. RAY. ST.—Leaves bare. Empal.
whitish green. HALL. ST.—Fruit-stalks of the florets hairy. Florets
hairy at the base and on the back; the third floret often wanting.
Bloss. outer valve ragged at the end. Awn twice as long the blossom;
rough. Seed hairy. LEERS. ST.—Leaves rough downwards. Pa-
nicle pyramidal; its branches expanding; some of them dividing
towards the top. Little spikes turning whitish or yellowish. Empal.
larger than the florets, 11 lines long, or somewhat less. Bloss. inner
valve edged with a fine fringe. POLLICH. ST.—Panicle branches
from 1 to 6 at a knot. Empal. valves 9 to 11 lines long, ribbed,
number of ribs uncertain, from 9 to 11; outer generally a line
shorter than the inner, containing 2 florets, both awned. Bloss.
with tufts of hairs at the base. Outer valve even, the ribs not being
prominent; beset with whitish hairs about the insertion of the awn,

and some few scattered ones between it and the base; sometimes only 1 or 2 hairs at the insertion of the awn; slightly cloven at the end, but readily separable to the depth of 2 lines; fawn coloured when ripe. *Awn* bent aside, about a line above the point of the valve. ST.

(*Gram. avenac. lanuginos. utriculis*, &c. SCHEUCH. 241. n. 2, accords in its admeasurement, but differs in its leaves being woolly. *Gramen. avenac. utriculis lanugine flavesc.* SCHEUCH. 239, though referred to by Linn. cannot be the *A. fatua*, as in that the 2 lowermost florets only are awned. The description of its structure, and the admeasurements, corresponds most exactly with my specimens of the *A. sterilis*. Scheuchzer speaks of his plant as a native of the South of Italy. Barrelier's plant was gathered near Rome. The descr. of J. Bauh. and of the H. ox. accord with Scheuch. ST.)

Bearded wild oats. Hover.

Corn fields.

A. July. Aug.

Horses, Sheep, and Goats eat it.—The awns are used for Hygrometers.—Sometimes so prevalent amongst barley as almost entirely to choke it. It may be extirpated by repeated fallowing, or laying down the land in grass.

rough AVE'NA *pubescens*. Flowers almost forming a spike. Empal. with 3 florets, bearded at the base. Leaves flat, downy. LINN.—Panicle branched. Receptacles bearded. HUDS.—Fruit-stalks of the florets hairy down to the base. ST.

Leers 9. 2.—*Ray* 21. 2.—*Scheuch.* 4. 20.—*Mont.* 65, *little spike.*

Very closely allied to the *A. pratensis*, but the leaves not rolled in. LINN.—Florets sometimes only 2, sometimes 4, and, in the more luxuriant plants, sometimes 5. SCHEUCH.—Fruit-stalks of the florets covered with a close white down, which is short towards the base, but at the point next the base of the floret long. SCHEUCH. ST.—*Spiked panicle* of a purplish shining silvery appearance.

Dry and chalky soils. [In Norfolk. Mr. Woodw.] P. June.

yellow. AVE'NA *flavescens* Panicle loose. Empal. short, 3 florets in each. All the florets awned.—

Curt. iii. 35, *left hand figure* cut of blossom.—*Schreb.* 9, *right hand figure* not yet in blossom.—*Leers* 10. 5.—*Scheuch.* 4. 18, *branch of the panicle.*—*H. ox.* viii. 7. 42, *panicle too close and stiff.*—*Mont.* 79, *too small.*

Straws smooth. Leaves, upper side hairy, the lower smooth. Sheaths generally more or less hairy, especially towards the base, but sometimes, and even in specimens of the larger size, smooth. Empal. sometimes containing only 2 florets. SCHEUCH. ST.—In none

of

of my specimens is the under surface of the leaves hairy. *Empal.* sometimes containing 1 fertile, and 1 abortive floret. ST.—Panicle greenish yellow. Straw about 18 inches high. RAY.

Meadows and pastures, common.

P. July.

Cattle are not fond of it.

AVE'NA *pratensis*. Almost spiked. Florets 5 in each meadow empalement. LINN.—Leaves naked; rolled in. Panicle undivided. HUDS.—Fruit-stalks of the florets bare towards the base. ST.

Leers 9. 1.—Ray. 21. 1.—Vaill. 18. 1.—H. ox. viii. 7. 21, awns too straight.—Ment. 66, a little spike.

Leaves smooth underneath. LINN.—*Empal.* rough downwards. Lower fruit-stalks in pairs, one of them longer, supporting 2 little spikes. LEERS.—All the little spikes sometimes single, but generally the lowermost fruit-stalks dividing into 2. ST.—Awns bent back. RAY.—Leaves channelled, smooth. Panicle compact. Florets smooth; the upper one in each little spike barren.

Heaths, and high chalkey lands. [Norfolk, very frequent. Mr. WOODWARD.—King's Park, Edinburgh. Mr. SMITH.] P. July.

Horses, Cows, Sheep, and Goats eat it.

AVE'NA *strigosa*. (SCHREB.) Panicked. Empalement *scrannel* containing 2 florets. Blossoms smooth at the base; outer valve ending in 2 awns shorter than the valve, and with a bent awn from the back. ST.

Empal. the length of the florets. Florets on fruit-stalks. Terminating awns very fine, at the points white. Awn from the back twice as long as the florets, strong, brown at the base. I cannot find it described by any writer. SCHREB. *spic.* ST.—Straw and leaves bare. Panicle rather slightly nodding, than contracted, as Schreber. Fruit-stalks from 1 to 4, rough. RETZ. *obs.* 1. 13. ST.—*Empal. valves* ribbed; ribs from 7 to 10, and bordered on each side with a row of minute dots; lower valve somewhat shorter, from 6 to 7 lines long, upper 8 lines long. *Bloss.* outer valve sleek and smooth below, about the insertion of the awn in some specimens hairy with long white hairs, above the awn scored, rough, cloven at the end to within a line of the insertion of the awn, segments terminating in awns; awns purple, whitish at the end. Seeds hairy.

Specimen in Dr. Witherings's herbarium, compared with others from a friend of Prof. Schreber's, and the King's garden, Paris.

ST.

Amongst oats, barley, and sometimes rye. A. Summer.

SCHREB. RETZ.

ADDITIONS to the GENUS AVENA.

* 1. Empalements containing 1 floret. ST.

- brown *Avena canina*. *Agrostis canina*, which see.
 alpine *Avena alpina*. ST. *Agrostis alpina*, which see.
 short-awned *Avena vinealis*. ST. *Agrostis vinealis*, which see.
 panick *Avena lendigera*. ST. *Milium lendigerum*, which see.

* 2. Empalements containing 2 florets. ST.

- silver *Avena caryophyllea*. Panicle straddling. Empalements with 2 florets, awl-shaped. WIGGERS. ST.—*Aira caryophyllea*, which see.
 early *Avena præcox*. ST. Panicle contracted. Empalements with 2 florets. Awns awl-shaped. WIGGERS.—*Avena pusilla*. WIGGERS.—*Aira præcox*, which see.
 grey *Avena canescens*. Panicle close and straight. Empalements with 2 florets. Awns club-shaped. WIGGERS. ST.—*Aira canescens*, which see.
 heath *Avena flexuosa*. ST. Panicked empalements with 2 florets. One of the valves of the blossom awned, woolly at the base. WIGGERS. ST. *Aira flexuosa*, which see.
 mountain *Avena montana*. WIGGERS.—*Aira montana*, which see.

99. ARUN'D O. Reed.

Pl. II. fig. 22.

EMPAL. Husk 2 upright valves, containing 1 or more florets. Valves oblong, tapering; without awns. One shorter than the other.

BLOSS. 2 valves. Valves as long as the empal. oblong, tapering; with soft and tender hairs rising from the base, and nearly as long as the blossom.

CHIVES. Threads 3; hair-like. Tips forked at each end.

POINT. Seed-bud oblong. Shafts 2; hair-like; reflected; woolly. Summits simple.

S. VESS. The blossom adheres to the seed without opening.

SEED. Single; oblong, tapering towards each end, furnished with long feathers at the base.

ESS. CHAR. Empal. 2 valves. Florets crowded together, encompassed with wool.

common ARUN'DO *phragmites*. Panicle flexible. Florets 5 in each empalement.—

H. ox. viii. 8. 1.—Dod. 602, repr. in Lob. obs. 28. 1, Ger. em. 36. 1, and cop. in Park. 1209. 1, and J. B. ii. 485. 1.—C. B. th. 269.

th. 269, in the 2 last spikes ill done.—Trag. 674. 2.—Branch of the panicle, &c. Leers 7. 1.—Spike, Mont. *Arundo B. E.*—Floret, Scheuch. 3. 14. D.

Florets 4 and 5, smooth, but surrounded at the base with down about the length of the florets, and which rises from the spike-stalk, and not from the florets themselves. SCHEUCH. ST.—*Empal.* sometimes containing only 1 floret. *Bloss.* one of the valves sometimes awned! Scop.—*Seed-bud* bare. *Seeds* inclosed by the blossom, as Linnæus; not surrounded by long hairs, as Leers has erroneously represented it. ST.

Rivers, lakes, ditches; very common.

P. July.

Horses, Cows, and Goats eat it. Sheep refuse it.

The panicles are used by the country people in Sweden to dye woollen green. The reeds are much more durable than straw for thatching. Screens to keep off the cold winds in gardens, are made of them; and they are laid across the frame of wood-work, as the foundation for plaster floors.

ARUN'DO *epigejo's*. Panicle upright. One floret *small* in each empalement. Leaves smooth on the under side.—

Fl. dan. 280.—*Barr.* 364.?—Floret, Mont. 85. (86. does not accord with my specimens.)

Straw 2 feet high, thicker than those of wheat. Leaves of the breadth of one's finger. Panicle close, upright. LINN.—Leaves green, 2 or 3 lines broad, smooth underneath, beset above with very short scattered hairs. Flowers $1\frac{1}{2}$ or nearly 2 lines long. *Empal. valves* nearly equal. *Bloss.* somewhat shorter than the empal. when dry, whitish. Down rising nearly even with the empalement. SCHEUCH. ST.—Leaves much narrower than those of the *A. calamagrostis*. *Empal.* bristle-shaped. *Bloss.* not woolly. Mr. WOODW.—*Empal.* flexible, nearly membranaceous, microscopically rough; valves awl-spear-shaped; the outer $\frac{1}{4}$ line longer than the other. *Bloss.* line long, membranaceous, tapering to a point, point cloven, with an exceedingly minute awn rising from the bottom of the cleft, often but just taller than the end of the valve. Down from the base of the blossom. ST.

Dry hills, banks, and corners of fields. LINN.—Woods and moist hedges. HUDS.—[On the side of a ditch on the borders of Aqualate Meer, Shropshire. ST.—Eanham Wood, Norfolk. Mr. WOODWARD.]

P. July.

ARUN'DO *Calamagrostis*. Empalements smooth; 1 wood floret in each. Blossoms woolly. Straw branched.—

Scheuch. pr. 5.—Ger. em. 9. 1, cop. in J. B. ii. 476. 1.—Park. 1182. 4.—H. ox. viii. 8. 2.—C. B. th. 95, branches of the right hand panicle too distant.—Florets, Scheuch. 3. 3. (Fl. dan. 280, referred to in the Syst. Veg. cannot be the same plant with Scheuch. pr. 5, to which they also refer; and appears to me to be the *A. epigejos*.)

short-husked 2

Barr. 18. 1.

OBS. No. 1. are figures of *Gram. arund. panic. molli.* &c. Scheuch. but equally represent our plant.

Sometimes rises to the height of a man, and, what is very uncommon in a grass, throws out undivided branches from the bosom of the leaves. LINN.—Specimens sent by Linnæus had *branched straws*, but in the description of Scheuch. referred to by Linnæus, no notice is taken of this circumstance. SCOP.—I have never seen the straw branched. HUDS.—*Straw firm*, from 3 to 5 feet high. *Leaves* without hairs, upper surface smooth, but the under, as also the edges, rough to the hand drawn downwards; stiff, and arid. *Panicle* contracted, sometimes partly chestnut, and partly green, on the opening of the flowers a mixture of green, chestnut, and silky white, and when out of flower of a yellowish brown. *Empal. valves* narrowing to a point, almost entirely equal, and about 2 lines long. *Bloss.* membranaceous, glossy, white. *Down* about the length of the empalement. SCHEUCH. ST.—*Leaves*, some flat, others with their edges rolled in, and sharp-pointed at the end. *Panicle* before it comes into flower upright, afterwards somewhat nodding, the branches and their sub-divisions rather pointing one way. *Empal.* stiff, green, keeled, keel rough, slightly curved sideways. *Bloss.* 1 line long, awned, tapering to a point, point cloven. *Awn* hair-like, straightish, inserted above the middle of the back, extending $\frac{1}{2}$ line beyond the end of the valve. In external appearance it very much resembles the *Dactylis glomerata*. ST.

Gram. paniculat. &c. *minus.* SCHEUCH. p. 122. ST. *

Moist woods and hedges. [Ripton Wood, Huntingdonshire. Mr. WOODWARD.]

P. June. July.

Goats eat it. Cows are purged by it.

sea ARUN'DO *arena'ria*. Empalements with 1 floret in each. Leaves rolled in at the sides, sharp-pointed, and pungent.—

* (Not *Gram. arund. panic. molli.* SCHEUCH. *gram. p.* 122. *t.* 3. *f.* 3. referred to by Linnæus, but judiciously omitted by Hudson. A specimen of it from the son of Prof. Jacquin induces me to believe them to be only varieties, differing merely in the size of the hulks, the inequality of the valves of the empalement being often equally small in both. ST.)

H. ex. viii. 4, row. 3. 16.—*Clus.* ii. 221. 1, repr. in *Lob. obs.* 45. 3, and cop. in *Park.* 1198. 3, and *J. B.* ii. 512, 1.—*Ger.* 38. 3, repr. in *C. B.* 67.—*Ger. em.* 42. 3.—*Florets*, Scheuch. 3. 8. *A. B. C.*—*Mont.* 92.

This plant probably originated from the *A. epigejos*, impregnated by the dust of the *Elymus arenarius*. LINN.

Leaves scored within, smooth and glossy without, when growing sometimes expanded. *Bloss.* with a short down at the base. SCHEUCH. ST.—*Empal. valves* nearly equal, spear-shaped, compressed, keeled; the outer the broadest, marked with 1 rib; the inner with 3. *Bloss.* compressed, roughish, dull, of the same texture as the empalement; outer valve marked with 5 ribs, the middlemost ending in a very short spit-point, the base fringed all round with white, straight, stiff hairs, 4 times shorter than the blossom. *Scale* at the base of the inner valve, awl-shaped, fringed with the same hairs, analogous to the outer blossom of the *Phalaris*, or possibly the rudiment of a 2d fruit-stalk. Has a much nearer affinity in habit as well as structure to the *Phalaris*, than to the *Arundo*. ST.

Sea matweed. Marram. Helme.

Sea shore.

P. June. July.

It grows only on the very driest sand upon the sea shore; and it prevents the wind carrying the sand from the shore and dispersing it over the adjoining fields: which is not unfrequently the case where this Reed is wanting. Many a fertile acre hath been covered with unprofitable sand and rendered entirely useless; which might have been prevented by sowing the seeds of this plant upon the shore. The Dutch have profited by the knowledge of this fact. LINN.

The country people cut, and bleach it for making matts. Where it is plentiful, houses are thatched with it.

It is planted on some of our flat coasts in Norfolk to repel the sea. As soon as it has taken root, a sand hill gathers round it; and, it is probable, that some of our sandy cliffs have been entirely formed by it. Mr. WOODWARD.

101. L O ' L I U M. Darnel.

Pl. II. fig. 27.

Common *Receptacle* lengthened into a spike. The florets pointing from 2 opposite lines, and each pressed close to a bend in the straw.

EMPAL. *Husk* 1 valve, awl-shaped, permanent; standing opposite to a bend in the receptacle.

BLOSS. 2 valves. *Inferior valve* narrow; spear-shaped; rolled inwards; tapering; as long as the empalement. *Superior valve* shorter, more blunt, strap-shaped, concave on the upper part.

CHIVES. *Threads* 3; hair-like; shorter than the blossom. *Tips* oblong.

POINT. *Seed-bud* turban-shaped. *Shafts* 2; hair-like; reflected. *Summits* downy.

S. VESS. None. The blossom encloses the seed until it is ripe.

SEED. Single; oblong; compressed; convex on one side, flat and furrowed on the other.

ESS. CHAR. *Cup* 1 leaf, fixed, containing several florets.

OBS. The angles in the spike-stalk lying in the same plane with the florets, supply the defect of inner valves to the empalements.

LINN.

red LO'LIUM *perenne*. Spike awnless. Little spikes longer than the empalement. HUDS. — Spike awnless. Little spikes compressed, of several florets. LINN.

Schreb. 37.—Leers 12. 1, spike.—Fl. dan. 747.—Dod. 540. 1, repr. in Lob. obs. 21. 1; Ger. em. 78. 2; cop. in Park. 1145. 2; and C. B. 128.—Math. 1023.—Scheuch. 1. 7. A. B. C. part of the spike, &c.—Mont. 19.—(Ger 71. 2, not the plant.)

slender β. HUDS.—Spike awnless, cylindrical. Little spikes with 3 florets. LINN.

Lolium perenne tenue. HUDS.—*Lolium tenue*. LINN.

clustered γ. LINN. ST.—H. ox. ib. n. 3.—Scheuch. pr. 2. 1—Scheuch. 1. 7. D.

branched δ. HUDS.—Leers ib. *—H. ox. ib. n. 4.—Park. 1146. 7.

Florets 3 or 4 in each little spike. Larger valve of the blossom cloven, and sometimes furnished with a soft short awn. LINN.—Empal. a single concave husk, tapering to a point. Bloss. valves both of the same length. Tips cloven at each end. Seed-bud placed between the upper valve of the blossom, and 2 small, spear-shaped, white,

white, semi-transparent substances, which, perhaps, Linnæus would call honeycups. *Shafts* none. *Summits* woolly or downy. *Florets* 6 or 7 in each little spike. *Larger valve* of the blossom neither cloven nor awned. **WITH.**

Road sides: dry pastures.

P. June.

Ray grafs. *Rye grafs.* *Crap.*

It makes an excellent hay upon dry chalkey or sandy soils. It is cultivated with advantage along with clover, and springs earlier than the other grasses; thereby supplying food for cattle, at a season when it is most difficult to be obtained.

Cows, Horses, and Sheep eat it. Goats are not fond of it.

LO'LIUM *temulen'tum.* Spike awned. Little spikes *white* compressed; containing several florets. **LINN.**—Spike somewhat awned. Little spikes as long as the empal. **HUDS.**

1. **ST.** *Schreb.* 36.—*Fl. dan.* 160.—*Leers* 12. 2, spike.—*H.* awned *ox.* viii. 2, row. 2. 1. n. 2.—*Dod.* 538, repr. in *Lob. obs.* 21. 2; *Ger. em.* 78. 1; and *cop. in Park.* 1145. 1.—*Ger.* 71, repr. in *C. B. th.* 121.—*Mus. rust.* vi. 1. 1.—*Scheuch.* 1. 7. *E. F. and Mont.* 18, little spike.

2. **ST.** *H. ox.* viii. 2, row. 2. 1. n. 1.—*Math.* 411.—*J. B.* ii. 437. awnless

I have found it oftener without awns than with. **MR. WOODW.**
Corn fields. **A. July. Aug.**

The seeds, mixed with bread-corn, produce but little effect, unless the bread be eaten hot; but, if malted with barley, the ale soon occasions drunkenness. **LINN.**—Made into bread, with a small proportion of wheat, and eaten repeatedly, produced vomiting, purging, violent cholics, and death. *Vol.* 67. *M. Review.* p. 559.—Sheep are not fond of it.

LO'LIUM *bromoides.* Panicle undivided, pointing *sea* one way. Little spikes awned. **HUDS.**

Ray. 17. 2.

Root fibrous. *Straws* numerous, from 6 to 12 inches high; oblique, cylindrical, smooth, a little branched. *Leaves* sword-shaped, a little rolled inwards, sharp, naked, much shorter than the leaf-stalk. *Leaf-stalk* sheathing, bellying, naked. *Props* membranaceous, jointish. Little spikes on fruit-stalks, strap-shaped; florets from 4 to 8 in each. *Fruit-stalks* short, thick, rough. *Husk* 1 valve, strap-shaped, concave, awned. *Bloss.* 2 valves, unequal. *Outer valve* larger, strap-shaped, keeled, awned, rough. *Inner valve* smaller, flat, strap-shaped, awnless. *Awn* twice the length of the floret. **HUDS.**

Wild Oat-grass, or Drank.

Sea coasts, in loose sand.

A. May. June.

R O T T B O L'

ROTTBOL'LIA.* Linn. the Son. *Hard-grafs.*

Pl. II. fig. 31.

Spike-stalk cylindrical, thread-shaped, very straight, jointed. *Joints* hollowed out downwards towards the joint below with an oblong excavation. *Flowers* enclosed within the excavated hollows of the spike-stalk, solitary, or in pairs; one with only chives, the other with chives and pointal.

EMPAL. *Husk* of 1 valve. (2 valves. Sp. pl. ST.) *Valve* simple, or divided into 2, gristly, lopped at the base, closing up the hollow like a kind of cover, joined to the spike-stalk by a moveable articulation, egg-oblong, pointed, flat.

BLOSS. *Husk* of the *floret* with *chives* and *pointal* of 2 valves; *valves* spear-shaped, pointed, concave, unequal, membranaceous, shorter than the empalement. *Husk* of the *floret* with only *chives*, if such present, similar to the former.

CHIVES. *Threads* 3; hair-like. *Tips* strap-shaped, forked at each end.

POINT. *Seed-bud* oblong, strap-shaped, lopped, furnished with a little head, convex on one side, concave on the other. *Shafts* 2, thread-shaped. *Summits* feathered, or pencil-shaped.

S. VESS. None, except the hollows in the joints closed by the husk of the empalement which contain the ripe seed, till the spike-stalk falls off joint by joint.

SEED. One, the shape of the seed-bud.

ESS. CHAR. *Spike-stalk* jointed, roundish; in several species thread-shaped. *Empal.* egg-spear-shaped, flat, simple, or divided into 2. *Florets* alternate, on a zigzag spike-stalk. LINN. THE SON.

Obs. What is above described as a spike-stalk is in fact the spike. It might have been added too, that in some species it is flattened; neither ought the spike-stalk to form a generic characteristic. Were it admitted, we should be obliged to divide the *Panicum* and *Cynosurus* into 4 genera. ST.

ESS. CHAR. Flowers with chives and pointal.

* In memory of Christian Friis Rottboll, professor of botany at Copenhagen, (See catalogue of authors.) LINN. THE SON.

Empal. Husk solitary, divided into 2. *Bloss.* Husk placed contrariwise to that of the empalement. *Chives* 3. *Shafts* 2. *Seed* 1.

Flowers with only chives.

Empal. Blossom and chives as above. HUDS.

Obs. *Empal.* evidently of 2 leaves. *Bloss.* valves parallel to the larger of the valves of the empalement.—Mr. Hudson, with the above new character, has retained the name of *Ægilops*, which ought, however, to be applied to the genus which comprehends the *Ægilops* of the old authors. ST.

Ess. CHAR. *Empal.* 2 contiguous valves, both placed outwardly, solitary. *Bloss.* of 2 valves, membranaceous, awnless. ST.

Obs. In the disposition of its 2 leaved empalement it corresponds with *Ægilops*, but differs in its blossom, which, instead of being gristly and awned, is membranaceous as in the other *Rottbollias*, in which, however, the empalement is of 1 valve as in *Lolium*. Thus, if its claim to a distinct genus should be inadmissible, we may be allowed to consider it as forming the connecting link between the two. ST.

ROTTBOL'LIA *incurva'ta*. Spike cylindrical, awl-shaped. Husk of the empal. awl-shaped, contiguous, divided into two. LINN. THE SON. *suppl.* 114. sea

H. ox. viii. 2. 8.—*Park.* 1146.—*Barr.* 5 and 6.—*Scheuch.* 2. 1, spike.

Spike without awns, smooth, thread-shaped, crooked; but little thicker than the straw. *Empal.* of 2 valves; both placed outwardly. *Bloss.* valves placed contrariwise to those of the empal. LINN.—*Empal.* valves awl-spear-shaped, scored on the outside just longer than the joint, to the base of which they are fixed, 1 just sensibly narrower, and its edge lapping over that; the inner open when the blossom is in flower of the other. *Bloss.* contained between the hollow of the joint and the innermost of the valves of the empalement; valves equal in length, brownish white, the inner somewhat narrower. Flowers, all which I have ever examined, had a pointal as well as chives. ST.

Ægilops incurvata. LINN.

Sea coast. [Salt Marsh, below King's Weston, near Bristol. ST.] P. July. Aug.

102. E L'Y M U S. Lime-grafs.

Pl. II. fig. 26.

Common *Receptacle* lengthened into a spike.EMPAL. *Husk* 4 leaves, pointing from 2 opposite lines, 2 of the leaves which are awl-shaped, belonging to each little spike.BLOSS. 2 valves; *outer valve* large, tapering; furnished with an awn. *Valve* flat.CHIVES. *Threads* 3; hair-like; very short. *Tips* oblong, forked at the base.POINT. *Seed-bud* turban-shaped. *Shafts* 2; straddling, hairy, bent inwards. *Summits* simple.

S. VESS. The blossom incloses the seed.

SEED. Single; strap-shaped; convex on 1 side; covered.

ESS. CHAR. *Empalement* lateral, of 2 valves, containing several *florets*; incorporated.

OBS. The empalement may be considered as a husk of 2 leaves, and 2 of these empalements growing together.

sea EL'Y M U S *arena'rius*. Spike upright, compact. Empalements woolly; longer than the floret.—

Schreb. 40.—Gmel. i. 25.—(Fl. dan. 847, is some other grass. Mr. Woodw. as is evident from its minute blossom.—Clus. ii. 221. 2, cop. in C. B. 68. 2;—Ger. 23, repr. in C. B. th. 14, cop. in Park. 1277. 1, J. B. ii. 478. 2, and H. ox. viii. 2. 11;—Pluk. 33. 3;—and Scheuch. 3. 17. D. not the plant.—In Mont. 17, the florets are more than two, and longer than the empalement.)

Spike upright, long, woolly. Little spikes 2 together, straight, containing 2 florets, awnless. Leaves like those of REEDS, bluish green, or whitish; rolled inwards and sharp-pointed. LINN.

Sea coast, in loose sand.

P. July. Aug.

It resists the spreading of the loose sand on the sea shore. Is it not capable of being formed into ropes as the *Stipa tenacissima* is in Spain?

Cows, Horses, and Goats eat it. Sheep refuse it.

dogs EL'Y M U S *caninus*; *Triticum caninum*. HUDS. &c. which see.

wood EL'Y M U S *europæus*. Spike upright. Little spikes 2 florets in each; as long as the empalement.—

Scheuch. pr. 1. 1.—Park. 1144. 7. (1)—Mont. 94, floret, ill done.

Very

Very much resembles the *Elymus virginicus*, but the leaves of the fence not scored, and florets 2. Florets, together with their awns, longer than the fence. LINN.—Evidently an *Elymus*. MR. WOODW. ST.—Fence, the 2 leaves proceeding from an exceedingly short pedicle, distinct from that of the floret. SCHEUCH. ST.—Leaves of the fence equal, somewhat scored towards the end. Florets often 2, and both fertile; the lower on an exceedingly short fruit-stalk; the upper on a fruit-stalk, nearly half its length, with the rudiment of a 3d fruit-stalk at the base of the inner valve. Haller, Murray, and Hudson have made it a *Hordeum*, not reflecting, that in the *Elymus philadelph. and canadens.* the lower little-spikes are often found in threes; and, I may also add, with a treble fence of 2 leaves as in the *Hordeum*. Indeed, none of them seem ever to have found it with little spikes of 2 florets, except Mr. Hudson, who speaks of the 2d floret as being abortive. In my specimens the seeds of both were nearly arrived to maturity.—In structure it is an *Elymus*, in habit it approaches rather more to the *Hordeum*. In truth it seems the connecting link between these two genera. Floret generally single. ST.—*Hordeum sylvaticum*. HUDS. which see.

Woods in chalkey soil. [Rocks opposite Matlock Baths; Ripton Woods, Huntingdonshire. Near Berkhamstead, Herts. In the North, frequent. MR. WOODWARD.] P. June.

104. H O R ' D E U M. Barley.

Pl. II. fig. 25.

Common Receptacle lengthened into a spike.

EMPAL. Husk of 6 leaves, containing 3 florets. Florets fitting. Leaves strap-shaped, tapering, distant; in pairs.

BLOSS. 2 valves. Lower valve longer than the empal. bellying; angular; egg-shaped, but pointed; ending in a long awn. Inner valve smaller; flat; spear-shaped. (Honeycups spear-shaped. POLLICH.—Membranaceous, the length of the seed-bud. ST.)

CHIVES. Threads 3; hair-like, shorter than the blossom. Tips oblong.

POINT. Seed-bud between egg and turban-shaped. Shafts 2; woolly; reflected. Summits like the shafts.

S. VESS. The blossom grows round the seed without opening.

SEED. Single; oblong, bellying, angular, tapering at each end; with a furrow on one side.

Ess.

ESS. CHAR. *Empal.* growing by threes; fixed sideways; of 2 valves, containing 1 floret.

OBS. In some species all the 3 florets that grow together are fertile, and have both chives and pointals; but, in others, the middle floret alone is fertile, and furnished with chives and pointals, the lateral florets having only chives.

wall HOR'DEUM *murinum*. Lateral florets with awns and chives. Husks of the intermediate florets fringed.—

Fl. dan. 629, with florets magnified.—*Lob. obs.* 18. 1, cop. in *Park.* 1147.—*H. ox.* viii. 6. 4, *Gr. secalin.*—*Ger.* 66. 2, repr. in *C. B.* 134.—*Ger. em.* 73, uppermost figure.—*Barr.* III. 1.—*Mont.* 90, the middlemost floret.

Middle floret sitting; lateral ones on fruit-stalks about a line long. Fence, outer leaf somewhat longer. SCHEUCH. ST.—Bloss. inner valve with a small bristle at the base. POLLICH. ST.—Middle floret; leaves of the fence strap-spear-shaped, scored. Lateral florets, inner leaf of each fence awl-spear-shaped, fringed; outer bristle-shaped, with a few hairs towards the base; chives often imperfect. Bloss. outer valve hairy within. Honeycups hairy. ST.

Wall Barley. Way Bennet. Wild Rye. Rye-grafs.

Walls and road sides.

A. April.—Aug.

Sheep and Horses eat it.

It feeds the Brown Moth *Phalæna granella* — and the Barley Fly, *Musca frit.*

meadow HOR'DEUM *pratense*. HUDS.*—Lateral florets abortive, awned. Fences bristle-shaped, rough. ST.

Vaill. 17. 6.—*H. ox.* viii. 2, row. 1. 6.—*Fl. dan.* 630, with florets magnified.—*Park.* 1144. 7. (3)—*Mont.* 96; a single floret. (*Barr.* III. 2, spike 3, instead of $1\frac{1}{2}$ or 2 inches long;—*H. ox.* viii. 6. 5, *Gr. secalin.*—and *Mont.* 93, not the plant.)

As narrow again as the *H. murin.* taller, more upright, and browner. LINN.—Middle floret sitting. Lateral florets on short fruit-stalks, ending in an awn $1\frac{1}{2}$ or 2 lines long. SCHEUCH. ST.—Fences no where fringed. Florets, in some specimens, hairy. SCHREB.—Middle floret smooth; awn $1\frac{1}{2}$ as long as the floret. Lateral florets with a pointal as well as chives, but very minute, and never coming to maturity; blossom outer valve rough towards the point; awns not quite half as long as the floret; not awnless as in Mr. Hudson's character. A stiff bristle-shaped awn at the base of each floret, nearly

* No such name in the Spéc. Plant, which Mr. Hudson refers to.

nearly one third of the length of the floret, as if the rudiment of the fruit-stalk of the second floret. ST.

Hordeum murinum. β. LINN.—*Hordeum secalinum*. SCHREB. *spicileg*.
—*Hordeum maritimum*. OEDER.

Moist pastures.

P. June.

HOR'DEUM *maritimum*. Lateral florets with only *sea* chives, awned. Inner fence of the lateral florets half-egg-shaped. HUDS. — Rather half-spear-shaped; not fringed. ST.

H. ox. viii. 6. 5, with a floret.

Lateral florets on fruit-stalks which are $\frac{1}{2}$ a line long; outer valve awned. Middle floret sitting. SCHEUCH. ST.—Fences roughish, not fringed, or scored, the rest awl-bristle-shaped. Florets smooth; awn-like rudiment of a fruit-stalk at the base of the inner valve; the lateral ones on very short fruit-stalks at the base of their fence, and their awns somewhat longer than the floret.

Gram. spicat. secalin. maritimum minus. SCHEUCH. 18. ST.—*Hordeum maritimum*. HUDS. who did not, perhaps, advert to the too great resemblance between this name and *murinum* in sound as well as spelling. ST.

Meadows and pastures.

A. June. July.

HOR'DEUM *sylvaticum*. HUDS.—All the florets *wood* with chives and pointals, awned. Fences growing together at the base, shorter than the awns. HUDS. ST.

Elymus europæus, which see. *Hordeum cylindricum*. MURR. prod. 43.

In this and all the preceding species is concealed in the longitudinal furrow of the flowers, a *pedicle*, appearing like a 3d leaf of the fence. HUDS. ST.—But sometimes supporting an abortive floret. HUDS.—I have never yet met with a 2d floret in any of them but this. ST.

105. TRIT'ICUM. Wheat.

Pl. II. fig. 24.

Common *Receptacle* lengthened into a spike.EMPAL. *Husk* 2 valves, containing about 3 florets. *Valves* egg-shaped, bluntish, concave.BLOSS. 2 valves, nearly equal, the size of the empal. *Outer valve* distended, blunt, but tapering. *Inner valve* flat.CHIVES. *Threads* 3; hair-like. *Tips* oblong, forked at each end.POINT. *Seed-bud* turban-shaped. *Shafts* 2; hair-like, reflected. *Summits* downy.

S. VESS. None. The blossom contains the seed until it is ripe.

SEED. Single; oblong egg-shaped; blunt at each end, convex on one side, furrowed on the other.

ESS. CHAR. *Empal.* 2 valves, solitary; containing about 3 florets. *Florets* blunt, but tapering.OBS. The *outer valve* of the blossom in some species is furnished with an awn; in others not. The *middle* floret is frequently without pointals. LINN. — In structure, *Triticum* and *Bromus* are one genus. See obs. on *Festuca*. ST. — The disposition of the little spikes constitutes the only difference between this genus and *Bromus*. SCOP. ST.rush TRIT'ICUM *jun'ceum*. Empalements lopped; 5 florets in each. Leaves rolled inwards.—C. B. th. 132.—H. ox. viii. 1. 5. (*Fluk.* 33. 4. a. not examined, but referred to by Hudson, &c.)Extremely smooth. *Sheaths* downy. *Leaves* sharp-pointed; very narrow; sea-green on the upper surface. *Little spikes* pressed to the straw. *Empal. and Bloss.* with or without awns. LINN.VAR. β . HUDS. — Leaves not so sharp and not so much rolled in. Spikes somewhat thicker. RAY.VAR. γ . HUDS. — With a leafy spike. RAY.

Ger. 23. 2, cop. in C. B. 15, Park. 1277. 3, and H. ox. viii. 2. 12, seems only a diseased plant, possibly from the puncture of insects.

See *Wheat-grass*.

Sea shore, common. [Beach at Yarmouth. Mr. WOODWARD.]

P. June. July.

couch TRIT'ICUM *re'pens*. Empalements awl-shaped, containing several sharp-pointed florets. HUDS. — Husks sharp

sharp-pointed, or awned. Awns shorter than the little spikes. SCHREB. ST.—Root creeping. ST.—Empalements awl-shaped, pointed; 4 florets in each. Leaves flat. LINN.

Schreb. 26.—(Lob. obs. 11. 2, cop. in Park. 1173. 1.—C. B. 7. —Blackw. 537, ill done, if the plant.)

α. HUDS. Florets 2 to 5, awnless. SCHREB. ST. awnless

Schreb. 26. III. spike, and 1 little spike. — Leers 12. 3, spikes, &c.—H. ox. viii. row. 3. 8.—Mont. 25, little spike.

β. HUDS. Florets 5 to 8. Awns not a line long. SCHREB. ST. short-awned

Schreb. 26. II. and 2 and 3, spike, &c.—Mont. 26, little spike.—Park. 1173. 2.—Barr. 906. 2.—C. B. pr. 17. 1, repr. in th. and cop. in Park. 131.—Gmel. 1. 24.—Scheuch. 1. 1. A. C. 1.

5 and 6. SCHREB. Florets 4 to 6. Awns 2 to 4 lines long. ST. long-awned

Fl. dan. 748.—Schreb. 26. 5 and 7.—Vaill. 17. 2.—Leers 12. 4. 1.—Scheuch. 1. 1. C. 2. (Vaill. 17. 3, has 12 to 14 florets.)

Triticum caninum. MÖENCH.—*Triticum dumetorum*. Germ. synonym.

Gram. spica, &c. dictum cum *spica aristata*. R. syn. 390.

VAR. γ. Leaves sea-green, stiff, sharp. HUDS.

Empalements containing from 3 to 8 pointed florets. HUDS.

Dogs-grass, Squitch-grass, Couch-grass, Quitch-grass.

Very common.

P. June.—Aug.

It is a most troublesome weed in arable lands, and can only be destroyed by fallowing in a dry summer.

At Naples the roots are collected in large quantities, and sold in the market to feed horses; they have a sweet taste, something approaching to that of liquorice; when dried, and ground to meal, they have been made into bread in years of scarcity. The juice of them drank liberally is recommended by Boerhaave in obstructions of the viscera; particularly in cases of schirrhous liver and jaundice. Cattle are frequently found to have schirrhous livers in the winter, and they soon get cured when turned out to grass in the spring. Dogs eat the leaves to excite vomiting.—Horses eat them when young, but leave them when fully grown. MR. SOUTHWELL.

Cows, Sheep, and Goats eat them.

TRITICUM caninum. Empalement pointed. Awns *dogs* longer than the blossom. Root fibrous. ST.—Empalements awl-shaped, with mostly 4 florets. Florets awned. HUDS.—Root perennial. Spike somewhat nodding. Little spikes upright. Awns very long. SCHREB.

Leers 12. 4. II. spike, &c.—H. ox. viii. 1. row. 3. 2.—Buxb. iv. 50. (Gmel. 1. 27, resembles it, but, from the description, seems to be a different plant.)

TRIANDRIA DIGYNIA.

Leaves bare of hairs underneath. *Sheaths* smooth. *Little spikes* 5 or 6 lines long. *Empal.* 3 lines long. *Lowermost blofs.* 4 or 5 lines long; *outer valve* sending out from a bluntish point, an awn, from 7 to 9 lines long. SCHEUCH. ST.—I never saw the *little spikes* in pairs. SCHREB.—*Root* not creeping. REICH.—*Blofs. inner valve* spear-shaped just sensibly longer than the outer; *outer* bare of hairs, edges at the point membranaceous. The above circumstances distinguish it from the *Festuca sylvatica*, which it very much resembles in its general appearance. ST.

Triticum caninum. LINN. sp. pl. ed. I. HUDS. SCHREB. spicileg.

Elymus caninus. LINN.

Woods and hedges. [Ripton Wood, Huntingdonshire, and in the North, frequent. Mr. WOODWARD.] P. June. July.

sea TRIT'ICUM *maritimum.* Empalements containing several sharp-pointed florets. Spike branched.—*Poa loliacea.* HUDS. which see.

Straw somewhat branched; about a span high. *Leaves* as long as the straw; the sheathing part purple. *Spike* branched, almost resembling a panicle; its branches angular. *Little spikes* of 8 or 10 florets; alternate, compressed; thickest at the base; sitting; in the branches sometimes solitary. LINN.

Sea shore, common.

A. June. July.

GRASSES have a *honeycup* of 2 leaves, rather oblong; but, as it furnishes no generic distinction, it was thought superfluous to mention it every where. LINN.

Fescue TRIT'ICUM *bromoides.* Little spikes cylindrical; remote. WIGGERS.

Festuca pinnata. HUDS. which see. It is not a Triticum, but I have given Wigger's name and character for the sake of the investigating botanist. ST.

Order III.

TRIGYNIA; III. POINTALS.

107. M O N ' T I A. Blinks. (Ray.)

EMPAL. Cup 2 leaves. Little leaves egg-shaped, concave, blunt; upright; permanent.

BLOSS. 1 petal, deeply divided into 5 parts. The 3 alternate segments smaller than the rest, and supporting the chives.

CHIVES. Threads 3; hairlike; as long as the blossom, into which they are inserted. Tips small.

POINT. Seed-bud turban-shaped. Shafts 3; woolly; expanding. Summits simple.

S. VESS. Capsule turban-shaped, blunt; covered; of 1 cell and 3 valves.

SEEDS. 3; roundish.

ESS. CHAR. Cup 2 leaves. Bloss. 1 petal; irregular. Caps. 1 cell; 3 valves.

OBS. The cup has frequently 3 leaves, and then there are often 5 chives. LINN.

M O N ' T I A *fonta'na*.

water

Mont. 13. 2.—Curt. iii. 32.—Vaill. 3. 4.—Pluk. 7. 5, cop. by Pet. 10. 12.—Fl. dan. 131.—J. B. iii. 786. 3?

Stems succulent, trailing, crooked; white or tinged with pink. Leaves rather fleshy, egg-shaped, opposite; 2 at each joint of the stem. Flowers on long or short crooked fruit-stalks rising from the bosom of the leaves. Bloss. white. Seeds black, shining; dotted when magnified. WITH.

Small Water Chickweed, or Purslane.

Springs and watery lanes. Sometimes in wet ploughed lands. [Hockley Pool Grate, near Birmingham. WITH.—Wet heaths in Norfolk, frequent. Mr. WOODWARD.] A. May.

189. T I L L Æ ' A.

EMPAL. Cup with 3 divisions, flat. Segments egg-shaped, large. (Segments pointed, concave, approaching. ROSE.)

BLOSS. Petals 3, egg-shaped, pointed, flat, mostly smaller than the cup. (Petals concave. ROSE.)

CHIVES. Threads 3, simple, shorter than the bloss. Tips small, (roundish. ROSE.)

POINT. Seed-buds 3. Shafts simple. Summits blunt.

S. VESS. Capsules 3, oblong, tapering, reflected; as long as the blossom; opening lengthways upwards.

SEEDS. 2; egg-shaped.

ESS. CHAR. Cup with 3 or 4 divisions. Petals 3 or 4; equal. Capsules 3 or 4, with several seeds.

Obs. In the *T. aquatica*, a native of Europe, though not yet found in Britain, 4 is the prevailing number in the parts of fructification.

moſſy T I L L Æ ' A *muscoſa*. Stems trailing. Blossoms with 3 clefts.—

Rose 2. 2, natural size A. magnified B.—Mich. 20, as growing wild H. H. cultivated I. magnified K. parts of fructif. A.—G.—

Mr. WOODWARD.

Stems at first nearly upright, generally red. ROSE.—Parts of fructification never more than 3. Leaves in pairs, fleshy. Floral leaves shaped like the other leaves, but smaller. Stalks considerably longer after flowering. Mr. ROSE's description very good. Mr. WOODWARD.—Of the same natural family with the *Sedum*, *Sempervivum*, &c. ST.

[Dry heaths, Norf. and Suffolk. Mr. WOODW.] P. May. June.

110. H O L O S ' T E U M.

EMPAL. Cup 5 leaves. Little leaves egg-shaped, permanent.

BLOSS. Petals 5, deeply divided, blunt, equal.

CHIVES. Threads 3; hair-like; shorter than the blossom. Tips roundish.

POINT. Seed-bud roundish. Shafts 3; hair-like. Summits bluntish.

S. VESS. Caps. 1 cell, rather cylindrical; opening at the top.

SEEDS. Several, roundish.

ESS. CHAR. Cup 5 leaves. Petals 5. Capsule 1 cell, nearly cylindrical, opening at top.

H O L O S ' -

HOLOS'TEUM *umbella'tum*. Flowers in rundles.— *rundled*
Cerastium umbellatum. HUDS. which see.

112. POLYCAR'PON. Allseed.

EMPAL. Cup 5 leaves. *Little leaves* egg-shaped, concave, keeled; ending in a sharp point; permanent.

BLOSS. Petals 5, very short, egg-shaped, notched at the end, alternate; permanent.

CHIVES. *Threads* 3, thread-shaped; half the length of the Cup. *Tips* roundish.

POINT, *Seed-bud* egg-shaped. *Shafts* 3, very short. *Summits* blunt.

S. VESS. Capsule egg-shaped, of 1 cell and 3 valves.

SEEDS. Many; egg-shaped.

ESS. CHAR. Cup 5 leaves. Petals 5, very small, egg-shaped. Capsule 1 cell; 3 valves.

POLYCAR'PON *tetraphyl'lum*. LINN.—Stem branch- *four-leaved*
ing, trailing. Leaves in fours. LINN. THE SON.

Matth. 734.—*Barr.* 534.—*J. B.* iii. 366. 2.—*Lob. adv.* 196. 1.

The flowers are sometimes without petals. HUDS.—It alters its habit so much by cultivation as hardly to be known at first sight.

Mr. WOODW.—*Cup-leaves* keeled; edges membranaceous. *Leaves* oval, very entire, on leaf-stalks, growing mostly in fours. Mr.

NEWBERY.

Dry sandy ground. [Lymington, near Exeter. Mr. NEWBERY.]

A. May.—Aug.

Class IV.

TETRANDRIA.

IV. CHIVES.

THE Chives in this Class are 4, and all of the same length; whereas, in the fourteenth class, which is likewise composed of flowers with 4 chives, the chives are unequal in length, 2 of them being long, and 2 short.

The fourth division of the first ORDER includes the STELLATÆ or STARRY plants, which admit of the following NATURAL CHARACTER,

STELLA'TÆ. Starry Plants.

EMPAL. *Cup* small; with 4 teeth; permanent; superior. BLOSS. 1 petal; tubular. *Border* expanding; with 4 divisions.

CHIVES. *Threads* 4. *Tips* simple.

POINT. *Seed-bud* beneath; double. *Shaft* thread-shaped; cloven.

SEEDS. 2; somewhat globular.

OBS. Stem 4 cornered. Leaves surrounding the stem in form of a star, MARTYN. *Cat. Cant.*

The plants corresponding with this natural character are astringent and diuretic.

Order I.

MONOGYNIA; I. POINTAL.

* Flowers of 1 Petal, and 1 Seed—superior. INCORPORATED.

120. DIP'SACUS. - - Common *Empal.* leafy. *Receptacle* conical, chaffy. *Seeds* like little pillars.

121. SCABIO'SA. - - *Empal.* common to several florets. *Recept.* raised, a little chaffy. *Seeds* crowned; rolled in a cover.

*** Flowers of 1 Petal—beneath; and 1 Seed-vessel.

151. CENTUN'CULUS. *Bloss.* wheel-shaped. *Empal.* deeply divided into 4 parts. *Capsule* 1 cell; cut round.

148. PLANTA'GO. - - *Bloss.* bent back as if broken. *Empal.* divided into 4 parts. *Caps.* 2 cells; cut round.

† *Gentiana campestris.* *Gentiana filiformis.*

*** Flowers of 1 Petal—superior; and 1 Seed-vessel.

152. SANGUISOR'BA. - *Bloss.* flat. *Cup* 2 leaves. *Caps.* 4 cornered; between the cup and the blossom.

**** Flowers of 1 Petal—superior; and 2 Berries. STARRY.

134. RU'BIA. - - - *Bloss.* bell-shaped. *Fruit* a berry.

132. GAL'IUM. - - - *Bloss.* flat. *Fruit* nearly globular.

† *Valantia cruciata.*

128. ASPER'ULA. - - *Bloss.* tubular. *Fruit* nearly globular.

127. SHERAR'DIA. - - *Bloss.* tubular. *Fruit* crowned. *Seeds* with 3 teeth.

***** Flowers of 4 Petals—beneath.

† *Cardamine hirsuta.* *Evonymus europæus.* *Parietaria officinalis.*

***** Flowers of 4 Petals—superior.

155. COR'NUS. - - *Empal.* with 4 teeth; deciduous. *S. Vessel* pulpy; including a stone with 2 cells.

***** *Flowers imperfect—beneath.*

177. *ALCHEMIL'LA.* - *Empal.* with 8 clefts. *Seed* 1, enclosed in the empalement.

Order II.

DIGYNIA; II. POINTALS.

180. *BUFO'NIA.* - - *Blofs.* 4 petals. *Empal.* 4 leaves.
Capsf. 1 cell, 2 valved, 2 seeded.
182. *CUS'CUTA.* - - *Blofs.* with 4 clefts, egg-shaped.
Empal. with 4 clefts. *Capsf.* 2 cells, cut round.
178. *APH'ANES.* - - *Blofs.* 0. *Empal.* with 8 clefts. *Seeds* 2.

† *Herniaria glabra.* *Gentiana campestris.* *Gentiana filiformis.*
Galium Mollugo. *Galium Aparine.*

Order III.

TETRAGYNIA; IV. POINTALS.

184. *I'LEX.* - - - *Blofs.* 1 petal. *Empal.* 4. toothed.
Berry 4 seeded.
188. *SAGI'NA.* - - - *Blofs.* 4 petals. *Empal.* 4 leaves.
Capsf. 4 cells. *Seeds* many.
189. *TILLÆ'A.* - - - See page 132.
186. *POTAMOGE'TON.* *Blofs.* 0. *Empal.* 4 leaves. *Seeds* 4, fitting.
187. *RUP'PIA.* - - - *Blofs.* 0. *Empal.* 0. *Seeds* 4, on footstalks.

† *Holosteum umbellatum.* *Linum Radiola.*

120. DIP'SACUS. Teasel.

EMPAL. Common Cup many leaves containing several florets.

Little leaves which form the cup longer than the florets; flexible; permanent. Proper Cup superior; scarcely perceptible.

BLOSS. General, regular. Individuals of 1 petal, tubular. Border with 4 clefts; upright. The outer Segment larger and sharper.

CHIVES. Threads 4; hair-like; longer than the blossom. Tips fixed side-ways.

POINT. Seed-bud beneath. Shaft thread-shaped; as long as the blossom. Summit simple.

S. VESS. None.

SEED. Solitary; resembling square pillars; crowned with the entire margin of the proper cup. Receptacle common conical. Florets separated by long chaffy leaves.

ESS. CHAR. Empal common, of many leaves. Proper cup superior. Receptacle chaffy.

DIP'SACUS *fullo'num*. Leaves sitting; serrated. manured

LINN.—Chaff bowed back. MILL. JACQ.—Rather hooked.

SAUV. ST.

Tourn. 265, a single head.—Fuchs. 224, cop. in Trag. 847, and J. B. iii. 73.—Matthiol. 661, cop. in Dod. 735. 1; repr. in Lob. obs. 487. 1.—Ger. em. 1167. 1, which is cop. in Park. 984. 1, with a separate head.—H. ox. vii. 36. 1.—Zanon. 68.

Scales much harder than those of the *D. sylvestris*. HALL. ST.

Dipsacus fullonum. β . LINN.

It is cultivated for the use of the clothiers, who employ the heads with crooked awns to raise the nap upon woollen cloths. For this purpose they are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. The plant flowers in June and July, and the heads are collected in August.

DIP'SACUS *sylvestris*. Chaff straight. MILL. SAUV. wild

JACQ.—Leaves entire. JACQ.

Jacq. austr. 402.—Curt. iii. 34.—Blackw. 50.—Fuchs. 225, cop. in J. B. iii. 74.—Matth. 662, cop. by Dod. 735, repr. by Lob. obs. 487. 3, Ger. em. 1167. 2, which cop. by Park. 984. 2.—

Ger.

Ger. 1005. 1, heads ripe.—*H. ox.* vii. 36. 3.—(*Ger.* 1005. 2, is *D. laciniatus*.)

Leaves ferrated. *MILL.*—Growing together at the base. *MURR.*—Common *Empal.* leaves long, encircling the head. *CURT. ST.*—Longer than the head. *Mr. Woodw.*—*Chaff*, some of the lower ones gently bowed downwards, but not hooked at the point. *ST.*—*Empal.* common with leaves of different sizes, long, slender, sharp, edged with sharp-pointed bristles, or rather prickles. *Florets* collected into egg-shaped heads, and separated by white, strap-shaped, channelled leaves, terminating in awns, and hairy towards the end. *Proper cup* 4 cornered, greenish, downy at the rim. *Bloss.* tube white, 4 cornered, woolly; border purple, cloven into 4 blunt, shallow, segments, one of which is longer than the rest. *Chives* not longer than the blossom. *Leaves* spear-shaped, the mid-rib set with hooked prickles, as is also the stem. *WITH.*

Dipsacus fullonum, &c. *LINN.*

Uncultivated places, wet hedge banks.—I have not found it north of Derbysh. and Nottinghamsh. *Mr. Wood.* B. June.—Aug.

small **DIP'SACUS** *pilo'sus*. Leaves on leaf-stalks, with little appendages. *LINN.*—(*The lower ones* have no appendages. *JACQ.*)

Curt. 1. 9.—*Jacq. austr.* 248.—*Blackw.* 124. 2.—*H. ox.* vii. 36. 5.—*Park.* 984. 4.—*Matth.* 663, cop. in *Dod.* 735. 3, repr. in *Lob. obs.* 487. 2, and *Ger. em.* 1168. 3.—*Blackw.* 124. 1.—*J. B.* iii. 75. 2.

Fruit-stalks set with strong bristly hairs. *Empal.* common, spear-shaped leaves, covered on the outside with bristly hairs. *Florets* collected into globular heads, and separated by leaves similar to those of the common empalement. *Outer cup* 4 cornered, skinny, lopped. *Inner cup* larger, 4 cornered, with 4 shallow segments, and fringed with soft hairs. *Bloss.* segments nearly equal, greenish white. *Summit* slightly cloven into 2 or 3 parts. *Stems* angular; set with prickles pointing upwards. *Branches* opposite, rising from the bosom of the leaves. *Leaves* spear-shaped, ferrated, prickly along the mid-rib. *WITH.*

Shepherds Rod. *Shepherds Staff.*

Hedges and damp places. [Lilleshall Abbey, Shropshire. *WITH.*—Abbey-lane, Evesham. Worcestershire. *Mr. Ballard.*]

B. *LINN.* *JACQ.* P. *HUDS.* Aug.

121. SCABIOSA. Scabious.

EMPAL. *Common Cup* of many leaves, expanding; containing many florets. The leaves fit upon and surround the receptacle in several rows, the inner ones of which become gradually smaller.

Proper Cup double; superior.

Outer Cup short; membranaceous; plaited; permanent.

Inner Cup with 5 divisions; the segments between awl and hair-shaped.

BLOSS. *General* regular; but mostly composed of irregular florets.

Individuals of 1 petal; tubular; with 4 or 5 clefts; equal, or unequal.

CHIVES. *Threads* 4; between awl and hair-shaped; limber. *Tips* oblong, fixed sideways.

POINT. *Seed-bud* beneath; rolled in a proper sheath, like a little cup. *Shaft* thread-shaped, as long as the blossom. *Summit* blunt; obliquely notched at the end.

S. VESS. None.

SEED. Solitary; oblong egg-shaped; rolled in a cover; variously crowned by the proper cups.

Receptacle common, convex, beset with chaffy leaves:

ESS. CHAR. *Common empal.* many-leaved. *Proper cup* double, superior. *Receptacle* chaffy, or naked:

OBS. Outer blossoms generally larger and more irregular. Seeds crowned differently in different species. Florets having 4 or 5 clefts. afford a primary specific distinction. LINN.

SCABIOSA succisa. Blossoms with 4 cleft, equal. *Devils-bit* Stem undivided. Branches near together. Leaves between egg and spear-shaped.—

Ludw. 193.—*Curt.* iii. 32. β .—*Fl. dan.* 279.—*Fuchs.* 715, cop. in *Trag.* 246, *J. B.* iii. 11, and *H. ox.* vi. 13. 7. β .—*Blackw.* 142.—*Matth.* 623, leaves too large.—*Dod.* 124. 1, repr. in *Lob. obs.* 295. 2, *Ger. em.* 726, and cop. in *Park.* 492. 1.—*Ger.* 587, root-leaves also serrated. Stem-leaves serrated in all the figures except *Fl. dan.* (*Column phytob.* 10, appears to me a different species.)

Bloss. sometimes flesh-coloured, or white. **RAY. ST.**—*Stem-leaves* toothed. *Flowers* nearly globular. **CURT.**—*Root-leaves* very entire. *Stem-leaves* sometimes sawed. *Stem* sometimes simple, and not more

more than a hand's breadth high. *Leaves* entire. Specimen gathered by Mr. Watt, on Stavelly Downs, Cornwall, near the sea. ST.—*Proper Cup* (the outer cup of LINN.) 4 cornered, hairy; with 4 shallow clefts, the segments fringed with white hairs. *Honeycup* (the inner cup of LINN.) enclosing the seed-bud, crowned with a concave, glandular receptacle, armed with 4 or 5 strong reddish-black bristles. Besides the above apparatus, each floret is furnished with a green spear-shaped floral leaf, terminated by a white taper bristle. *Stem* and *leaves* rough with hair. *Bloss.* bluish purple; sometimes double. WITH.

Fields and pastures, frequent.

P. June.—Aug.

The dried leaves are used to dye wool yellow or green. LINN.—A strong decoction of it, continued a good while together, was an empirical secret for gonorrhœas.

field SCABIO'SA *arvensis*. Blossoms with 4 clefts, radiating. Leaves with winged clefts, and jagged. Stem rough with strong hairs.—

Ludw. 21, florets not expressed.—Sheldr. 98, leaf, head, &c.—Fl.

dan. 447.—Fuchs. 716, cop. by Trag. 242, and J. B. iii. 2. 1.

—Ger. 583. 4.—Blackw. 185.—H. ox. vi. 13. 1.—Ger. em.

720. 4.—Dod. 122. 1, repr. in Lob. obs. 291. 1, Ger. em.

719. 1, and cop. in Park. 485. 1, habit too stiff.

Sometimes smooth. Flowers sometimes white, and all the leaves entire. HALL.—Common empal. fringed with long, white hairs. *Proper Cup* 4 cornered, hairy; with 4 small teeth. *Honeycup* (the inner cup of LINN.) enclosing the seed-bud; crowned with a concave receptacle, set with shining glands on the inside, and armed with 8 or 12 spear-shaped, serrated, greenish, bristly substances, hairy at the base. Florets in the circumference larger, with 4 unequal clefts. Florets in the center regular. Tips fixed to the threads by the middle. Summit with 2 or 3 flat, broad clefts. Seed-bud enclosed by the lower part of the honeycup. Leaves rough with hairs and tubercles; spear-shaped, and more or less jagged; some of them cut into winged clefts. Stem, towards the bottom, spotted with dark purple. Bloss. a little woolly; blue, purple, or white. WITH.

Pastures and corn fields.

P. July. Aug.

Sheep and Goats eat it. Horses and Cows not fond of it.

Slightly astringent, bitter, and saponaceous.

small SCABIO'SA *Columbaria*. Blossoms with 5 clefts, radiating. Root-leaves egg-shaped, scolloped. Stem-leaves winged, bristly.—

Walc.

Walc.—Ger. 582. 2.—Column. phytob. 22.—Clus. ii. 2. 2, repr. in Dod. 122. 3, Lob. obs. 290. 2, Ger. em. 719. 2, and cop. by Park. 484. 1.—J. B. iii. 4.—Matth. 970.—Fl. dan. 314, flowers half as large again as any I have ever seen.—H. ex. vi. 14. 20.—(Herm. par. 221, seems to me to be a different species.)

Feather with bristles 5 times as long as the blossom. LINN.

Dry hilly pastures, frequent.

P. June.—Aug.

Horses, Sheep, and Goats eat it. The *Papilio Maturna* feeds upon all the species.

151. CENTUN'ULUS. Chaffweed.

EMPAL. Cup with 4 clefts; expanding; permanent. Segments sharp, spear-shaped; longer than the blossom.

BLOSS. 1 petal; wheel-shaped. Tube somewhat globular. Border flat, with 4 clefts. Segments nearly egg-shaped.

CHIVES. Threads 4; nearly as long as the blossom. Tips simple.

POINT. Seed-bud roundish; within the tube of the blossom. Shaft thread-shaped; as long as the blossom; permanent. Summit simple.

S. VESS. Capsule globular; of 1 cell; cut round.

SEEDS. Several; roundish; very small.

ESS. CHAR. Empal. 4 clefted. Bloss. 4 clefted, expanding. Chives short. Capsule 1 cell; cut round.

Obs. Allied to *Anagallis*, but differs in its empal. being longer than the blossom; its blossom crowning the seed-vessel, and its threads being bare. St.

CENTUN'ULUS *minimus*.

Pimpernel

Curt. iii. 31.—Fl. dan. 177.—Vail. 4. 2.—Mich. 18. 2, confirmed by Mr. Woodward.

Bloss. minute; white; in the bosom of the leaves. LINN.—Leaves alternate, and not opposite, as in *Anagallis*. MICH.—Bloss. continuing and adhering like a calyptra to the point of the capsule, never expanding but when the sun shines strongly upon them. CURT.—Plant very small, branched, forked. Leaves sometimes opposite towards the bottom; egg-shaped, pointed, smooth, fleshy, pellucid at their edges, and brownish underneath. Flowers solitary. ROTH.

Bastard Pimpernel.

Moist sandy ground.

A. June.

148. PLANTA'GO. Plantain.

EMPAL. *Cup* 4 clefted; very short; upright; permanent. *Bloss.* 1 petal, permanent; shrivelling. *Tube* cylindrical, but somewhat globular. *Border* 4 clefted; reflected. *Segments* egg-shaped, sharp.

CHIVES. *Threads* 4; hair-like; upright; exceedingly long. *Tips* rather long; compressed; fixed sideways.

POINT. *Seed-bud* egg-shaped. *Shaft* thread-shaped; half as long as the chives. *Summits* simple.

S. VESS. *Capsule* egg-shaped; with 2 cells; cut round. *Partition* loose.

SEEDS. Several; oblong.

ESS. CHAR. *Cup* 4 clefted. *Bloss.* 4 clefted, its borders reflected. *Chives* extremely long. *Caps.* 2 cells, cut round.

OBS. Empal. in some species equal, in others unequal. LINN.

great PLANTA'GO *major*. Leaves egg-shaped, smooth. Stalk cylindrical. Spike tiled with florets.—

Curt. ii. 16.—*Fl. dan.* 461.—*Blackw.* 35.—*Matth.* 479, *cop.* in *Dod.* 107. 1, which is repr. in *Lob. obs.* 162. 2, and *Ger. em.* and re-*cop.* in *Park.* 493. 2 and 1.—*H. ox.* viii. 15. 2, and *Pet.* ii. 4. 1, in fruit.—*Trag.* 225. 1, in fruit.—*Fuchs.* 38, *cop.* in *J. B.* iii. 502.—*Ger.* 338. (*Gmel.* iv. 35 and 36, seem to have an angular stalk.)

Stalk nearly 2 edged. Mr. HOLLEFEAR.—Leaves with 7 ribs. Mr. WOODWARD.

dwarf *β. Ger.* 339. 1, *cop.* in *J. B.* iii. 505. 3.

dented 3. PETIVER. Leaves with large teeth towards the base. ST.

Pet. 4. 2.—*Park.* 494. 5. d.

pyramidal γ. Spike leafy. Flower-leaves disposed in a pyramidal form. ST. *Ger.* 340. 5.—*H. ox.* viii. 15. 3. b. c.—*Park.* 494. 5. b.—*J. B.* iii. 503. 1.—*Ger. em.* 420. 4, upper branch.—*Pet.* 4. 4, upper branch.

rose ε. Spike leafy. Flower-leaves disposed in a rose-like form. ST. *Park.* 494. 5. c. *cop.* in *H. ox.* viii. 15. 3. a.—*J. B.* iii. 503. 1. —*Pet.* 4. 4, lower branch.

This and the pyramidal often rise from the same root.

besom δ. Stalk branching into a panicle. ST.

Dod. 107. 2, repr. in *Lob. obs.* 162. 4, *Ger. em.* 420. 6, and *cop.* in *J. B.* iii. 503. 2, *Park.* 494. 5. a. and *Pet.* 4. 5.—*H. ox.* viii. 15. 4.

[Bedingham, near Bungay, Suffolk. Mr. STONE.]

Seeds

Seeds black; 2 in each cell. SCOP.—Capsule 6 seeded. LEERS.—Segments of the cup concave, skinny at the edges. Floral-leaf boat-shaped, fleshy, larger than the cup. Bloss. skinny. Tips pointed. Leaf-stalks spout-shaped. Leaves with 7 or 9 ribs. Stalk rough with short brownish hair. WITH.

Way-bread.

Road sides and foot paths, common.

A. Hudf. P. Linn. June.—Aug.

Sheep, Goats, and Swine eat it. Cows and Horses refuse it.

The common people apply the green leaves to cuts.

PLANTA'GO *me'dia*. Leaves between spear and hoary egg-shaped; downy. Spike and stalk cylindrical.—

Curt. iv. 43.—Fl. dan. 581.—Walc.—Fuchs. 39; cop. in J. B. iii. 504. 1.—Matth. 480, cop. in Clus. ii. 109. 1; repr. in Dod. 107. 4, Lob. obs. 162. 3, Ger. em. 419. 2, and re-cop. in J. B. iii. 504. 2; H. ox. viii. 15. 6, and Pet. 4. 3.—Ger. 338. 2.—Trag. 226. 1.—Park. 493. 3.—Spike. (J. B. iii. 505. 3, is Pl. major. β.)

Leaves not toothed. Cups smooth. Threads purplish. LINN.—Capsule with 2 feeds. Leaves generally roundish egg-shaped, but sometimes as in the Linnæan character, and the figure of Fuchs; often toothed towards the base, generally imperfectly, but sometimes deeply. ST.—Segments of the cup purplish and skinny, with green rib along the middle. Bloss. skinny, white. Chives white. Leaves toothed. WITH.—Ribs 5. MR. WOODWARD.

2. Leaves with straw-coloured stripes.

variegated

Hawford Bridge, near Worcester. ST.

Lambs-tongue.

Road sides in marle or chalkey lands.

P. June.—Aug.

Sheep, Goats, and Swine eat it. Cows and Horses refuse it.

PLANTA'GO *lanceola'ta*. Leaves spear-shaped. Rib-wort Spike nearly egg-shaped, naked. Stalk angular.—

Curt. ii. 15.—Fl. dan. 437.—Blackw. 14.—Walc.—Dod. 107. 3, repr. in Lob. obs. 163. 1, Ger. em. 422. 1, and cop. in Park. 496. 1, H. ox. viii. 15. 9, and Pet. 4. 6.—J. B. iii. 505. 1.—Trag. 225. 2, leaves too broad.—Ger. 341. 1.—Matth. 481.—Andersf.—(Fuchs. 39, is P. media.)

Leaves sometimes toothed. Seeds, 2 in each capsule. CURT. LEERS.—Stalk, angles 7. SCOP. MR. WOODW.—Leaves, ribs 5. MR. WOODW. WITH.—Root as if bitten off. Floral-leaves green; woolly underneath. Cup unequal. Tips white; opening at the lateral edges. WITH.

Rib-wort.

Rib-wort. Rib-grafs.

Pastures, very common.

P. June.

small β . Leaves narrower; ribs 3. ST.

Ger. prov. 12.—*Ger.* 339. 4.—*J. B.* iii. 505. 2.—*Park.* 496. 3.—*Pet.* 4. 7.

Mountainous and barren places.

rose δ . *foliofa*. ST.—Summit of the stalk furrounded with leaves longer than the spike. MR. WOODWARD.

Ger. 341. 2, *cop. in J. B.* iii. 506. 1; and *H. ox.* viii. 15. 10.

Near Leeds. ST.—Ripton, Huntingdonshire. MR. WOODW.

proliferous 4. Spike with 2 or 3 heads. LEERS.

Clus. ii. 110, *cop. in J. B.* iii. 506. 2, and *H. ox.* viii. 16. 10.

—*Pet.* 4. 8.

Isle of Thanet. RAY.

Linnaeus says it is eaten by Horses, Sheep, and Goats, and that Cows refuse it; but Haller attributes the richness of the milk, in the famous alpine dairies, to this plant and to the *Alchemilla vulgaris*. WITH.—The total absence of this plant in marshy lands, is a certain criterion of the wretched quality thereof. In proportion as such soils are meliorated by draining, this plant will flourish and abound. It is often sown and cultivated for pasturage, but does not answer the purpose without a mixture of clover or other grasses. Twelve acres of land being sown with this plant; a plentiful crop was the consequence, but no animal would eat it. MR. DICKENSON.—When it grows detached from other plants, as it frequently does by the sides of foot-paths, I have never seen cattle touch it. WITH.

sea PLANTA'GO *marit'ima*. Leaves semi-cylindrical, very entire; woolly at the base. Stalk cylindrical. LINN.—Leaves strap-shaped, nearly entire. Spike cylindrical. HUDS.—(*Includ'g P. lœflingii and R. syn. p. 315. n. 9, as varieties.*)

Fl. dan. 243.—*Dod.* 103, repr. in *Lob. obs.* 163. 2, *Ger. em.* 423. 3, and *cop. in Park.* 498. 1, and *H. ox.* viii. 17. 34.—

Ger. 343. 3.—*J. B.* iii. 511. 3.—*Ger. em.* 425. 1, seems to have been drawn from a withered specimen.

Leaves thick, strap-shaped, frequently convex on the under side. HUDS.—Flowers in a dense spike. Floral-leaves, 1 to each floret, as long as the cup, concave, sharpish, membranaceous at the edges. Stalk hairy, before flowering bent at the top. Cup crowned with long hairs rising from its base. ROTH.—Spike about 1 inch long; not upright 'till it flowers. *Empal.* set with very minute hairs. *Copj.* 2 seeded. Seeds oblong; flat on one side, convex on the other; yellowish red. SCOP.—Leaves sometimes with 1 or 2 teeth; the

the woolliness at the base not very observable when cultivated. *Tips* yellow. WITH.

Sea coast.

P. June. July.

Mr. Pennant, in the Brit. Zool. p. 13, says, it is cultivated and sown with clover in North Wales, and that it is greedily eaten by Horses and Cows; but Linnæus remarks, that though Sheep and Goats eat it, Cows are not fond of it.

β. *læfingii*. Leaves occasionally marked with a tooth. HUDS. narrowleaved

Ger. cm. 423. 3. HUDS.

Plantago læfingii, which see.

γ. Leaves stiffish, pointed; in dry situations rolled in. Spike mountain oblong; in the smaller plants roundish. HUDS.

PLANTA'GO *Coro'nopus*.* Leaves strap-shaped, *Buckshorn* toothed. Stalk cylindrical. LINN. *fl. suec. sp. pl.*—Leaves between winged and toothed. *hort. cliff.* HUDS. ST.

fl. dan. 272, and *Pet.* 4. 10, as growing in a poor soil.—Fuchs.

449, cop. by *Trag.* 99, and *J. B.* iii. 509.—Blackw. 460, as growing in a garden.—Matth. 493, cop. in *Dod.* 109. 1, repr.

in *Lob. obs.* 239. 2, *Ger.* 427. 1, and cop. in *Park.* 502. 1, and

H. ox. viii. 17. 31.—*Tourn.* 49, leaf.

Spike truly nodding before it flowers. LINN. WITH.—Leaves with winged clefts, the segments very unequal; lying on the ground in form of a star. *Empal.* segments of the cup lapping over each other; fringed with fine hairs at the outer edge, and so deeply divided as almost to form a cup of 4 leaves. *Bloss.* thin and skinny; segments pale brown. *Chives, threads* doubled down before flowering. *Tips* terminated at one end by a small-pointed membrane. *Shyft* downy. WITH.

Coronopus hortenſis. Bauh. pin. 196, as evident from the figures referred to by Linnæus, (and not *Coronopus sylvestris hirsutior* Bauh. ib. though referred to by Linnæus, which is variety 4.) ST.

Star of the earth. *Hartshorn.*

Gravelly soil.

A. June.—Aug.

This was formerly in repute as an antidote against the bite of a mad dog, but is now partly fallen into disuse.

Sheep and Goats eat it.

β. Leaves more deeply divided, and more hairy. Heads short, jagged and lax. BLACKST. p. 77.

Between Dartford and Greenhithe.

γ. Leaves strap-shaped, very entire, hairy. Spike roundish. HUDS. grafs-leaved

* Erroneously changed in *Syst. Veget. and Syst. Plant.* to *coronojifolia*, as it is itself the *Coronopus* of Tournefort. ST.

Very much refembles *Lob. ic.* 439. RAY; which is *P. subulata*. LINN. ST.

Dry meadows on the fea coaft. HUDS.—Banks of the river near Yarmouth, and near Sheernefs, in Shippey. RAY.

broad-leaved 4. Leaves between ferrated and toothed. ST.

Pluk. 103. 5.

Leaves more fleshy than thofe of (*a*); teeth refembling thofe of (*P. ferraria*.) COLUMN. ST.—But no appearance of ribs; covered with fhort whitifh hairs; the *inner* inverfely egg-fpear-shaped, tapering down into leaf-ftalks, teeth expanding; the *outer* nearly ftrap-shaped, toothed. Hair whitifh ST.

Plantago Coronopus dicta maritima brevi latoque and dentato folio pilofa. Pluk. alm. 299.—*Coronopus Prochytae infulae Column. ecph.*—*Plantaginellæ, &c. Ray. hift.* 879.—*Coronopus fylveftris hirsutior. Bauh. pin.* 190, as evident from the descr. of Column. referred to.—(*Plantago Coronopus. GOUAN. ill.* 6, refers to *Pluk.* 103. 5, but describes the leaves as having only 1 or 2 teeth. ST.)—Found in Cornwall by Mr. WATT.

narrowleaved

PLANTA'GO *laxifol'gii*. Leaves ftrap-shaped, fomething toothed. Stalk cylindrical. Spike egg-shaped. Floral-leaves keeled, membranaceous.—

Jacq. hort. 126.—*Petiv.* 4. 9.

Differs from the *Pl. Coronopus* in being a fmaller and earlier plant; in the *spike* being egg-shaped and not long. The *flowers* are more thinly fet, the *floral-leaves* fmooth and keeled; but, in the *Coronopus*, they are pubefcent, and extremely narrow. The *chives* too are fhorter, the *leaves of the cup* fharper, the *bloffom* browner. The *leaves* ftrap, not fpear-shaped; fparingly toothed; the *stalk* hairy. LÆFL.—*Root* annual. *Leaves* fometimes entire, downy, or fmooth. *Stalks* downy, or fmooth, about the length of the leaves. *Spike* always upright; when in bloffom fomewhat egg-shaped, when in fruit oblong. *Floral-leaves* fmooth, blunt, edges membranaceous. *Seed*, 1 in each cell. *JACQ. hort.*—Linnæus refers alfo, but, I fufpect, erroneoufly, to *P. marina*, *R. fyn. p.* 315, as the figures of *Park.* referred to by Ray is a copy of *Lob. obf.* 163, which Linnæus gives as a fynonym of *P. maritima*. I am doubtful whether *P. laxif.* be a native of Great Britain. ST. Mr. WOODW.—The fpecimens I formerly took for that plant, from finding it with leaves flightly toothed, I am now convinced are *P. marina*, having more frequently found them with leaves quite entire, a circumftance which is by no means conftant in plants growing near the fea. See *Atriplex*. Mr. WOODWARD.

Salt Marfhes. [Sea coaft, Yarmouth. Mr. WOODW.] A. JACQ.

P. July. Aug.

152. SAN-

152. SANGUISOR'BA. Blood-wort.

EMPAL. *Cup* 2 leaves. *Little leaves* opposite, very short; shedding.

BLOSS. 1 petal; wheel-shaped; with 4 (sometimes 5. WITH.) divisions. *Segments* egg-shaped; blunt; united by the claws.

CHIVES. *Threads* 4; broadest in the upper part; as long as the blossom. *Tips* small; roundish.

POINT. *Seed-bud* 4 cornered; situated between the cup and the blossom. *Shaft* thread-shaped; very short. *Summit* blunt.

S. VESS. *Capsule* small; with 2 cells.

SEEDS. Small.

ESS. CHAR. *Empal.* 2 leaves. *Seed-bud* between the cup and the blossom.

SANGUISOR'BA *officina'lis*. Spikes egg-shaped. *Burnet*
LINN.—Between cylindrical and oval. ST.

Ludw. 94.—*Fl. dan.* 97.—*Fuchs.* 788, *cop. in J. B.* iii. 120.—

Ger. 889. 2.—*Pet.* 4. 11.—*Clus.* ii. 197. 3, *repr. in Dod.* 105.

2, *Lob. obs.* 412. 4, *Ger. em.* 1045. 2, and *cop. by Park.* 582.

3.—*Matth.* 1033, the foliage better done than in any of the other figures.—*H. ox.* viii. 18. 7.—*Mus. rust.* v. 1. 6, leaf.

Little leaves, ferratures sharp; those of the lower leaves heart-egg-shaped, on long leaf-stalks, which have frequently appendages at their base similar to the little leaves; those of the upper leaves spear-shaped, on very short fruit-stalks. MR. WOODWARD. ST.—*Empal.* leaves unequal, skinny, and woolly; of a yellowish brown. *Blos.* beneath; *segments* mulberry-coloured; *tube* 4 cornered, white, a little hairy, fleshy, enclosing the seed-bud; its mouth filled with a thick, flattish, glandular ring, closely embracing, but not adhering to the shaft. These are the appearances when a *blos.* is newly expanded; but, afterwards, the segments separate so easily from the tube, that one should be apt to call it a blossom of 4 petals, tho' sometimes they may be observed to adhere slightly at the base. *Chives* thread-shaped, mulberry-coloured. *Tips* black. *Dust* yellow. *Seed-bud* egg-shaped, small. *Shaft* purplish red. *Summit* a fringed tuft, of a dark mulberry colour. *S. vessel*, besides the coat formed by the permanent tube of the blossom, there is another egg-shaped *S. vessel*, including 1 seed. *Spike* mulberry-coloured. *Upper florets* either without chives, or with only an imperfect one. *Leaves* winged, smooth, alternate; *little leaves* ferrated. WITH.

Wild Burnet. Great Burnet.

Moist pastures, frequent.

P. June.—Aug.

The whole plant is astringent. The green leaves are sometimes put into wine to give it a grateful flavour, and the very young shoots are agreeable in fallads. Cows, Horses, Sheep, and Goats eat it.

LINN.—But Horses do not seem fond of it. Mr. WOODWARD.

134. R U ' B I A. Madder.

EMPAL. *Cup* with 4 teeth; very small; superior.

BLOSS. 1 petal; bell-shaped; with 4 divisions; without a tube.

CHIVES. *Threads* 4; awl-shaped; shorter than the blos. *Tips* simple.

POINT. *Seed-bud* beneath; double. *Shaft* thread-shaped; cloven at the top. *Summits* nearly globular.

S. VESS. 2 smooth *Berries*; united.

SEED. Solitary; roundish; with a hollow dot.

ESS. CHAR. *Blos.* 1 petal; bell-shaped. *Berries* 2, 1 seed in each.

OBS. The blossom has sometimes 5 divisions.

wild R U ' B I A *peregrina*. Leaves perennial, strap-shaped; smooth above. LINN. (*according to HUDS. but to me it appears to be the following.* ST.)—*R. sylvestris*. MILL.—Lower leaves in sixes; upper ones in fours and twos; rough on both sides. MILL.

H. ox. ix. 21. 2.—*Pet.* 30. 3.—*Pomet.* 22. 30.—*Zanon.* 145.

Leaves from 4 to 8. HUDS.—Spear-shaped. *Blos.* of 5 leaves, (an error probably for—divided into 5.) *Chives* 5. Very nearly allied to the *R. tinctorum*. ✱ Is it really a distinct species? HUDS. ST.—Leaves, and especially those of the branches, sometimes between spear-shaped and elliptical; uppermost in twos; never strap-shaped, as in the *R. peregrina* of Linn. and Mill. Often rough on both sides, as in the *R. sylvestris* of Mill. the middle rib of the upper surface being occasionally beset with very minute prickles, whereas, those of the *peregrina* are described as smooth above. ST.

Rubia fol. ellipt. asperis, &c. HALL. 708. (HUDS. ST.)

St. Vincent's Rock, Bristol. Hedges in Devonshire. [In the Isle of Wight. ST.]

P. June. July.

132. GAL'IUM. Goosegrafs.

EMPAL. *Cup* very small; with 4 teeth; superior.

BLOSS. 1 petal; wheel-shaped; with 4 divisions, sharp; without a tube.

CHIVES. *Threads* 4; awl-shaped; shorter than the blos. *Tips* simple.

POINT. *Seed-bud* double. *Shaft* thread-shaped; cloven half way down; as long as the chives. *Summits* globular.

S. VESS. 2 dry globular *Berries*; united.

SEED. Solitary; large; kidney-shaped.

ESS. CHAR. *Blos.* 1 petal; flat. *Seeds* 2, roundish.

* *Fruit smooth.*

GAL'IUM *Cruciata*. SCOP. and WIGG.—Leaves in *Cross-wort* fours; egg-spear-shaped; woolly. Stem undivided; woolly. Bunches lateral, with 2 leaves. ST.

Blackw. 76.—*Dod.* 357. 1, repr. in *Lob. obs.* 467. 2, *Ger. em.*

1123. 1, and cop. in *Ger.* 965, *Park.* 566, and *H. ox.* ix. 21.

row 2. 1, *Cruciata*.—*J. B.* iii. 717. 2. (a) a branch.—*J. B.* iii. 717. 1.

I have a specimen in which all the flowers have *chives* and *pointals*. WIGG.—*Flowers* sometimes with 4 *chives* and a *shaft*, deeply divided; sometimes with 4 *chives*, and no *pointal*, but a kind of *ring* in the center of the blossom; and sometimes with 2 or 3 *chives*, and a tumid ring surrounding the base of the *shaft*. I have never met with any blossom with only 3 clefts. SCOP.—Add to this that in the *G. trifidum* the blossom is cloven into three. ST.—*Leaves* oval, marked with 3 veins; 4 at each joint of the stem, forming a cross. Stem 4 cornered, with 4 fluted sides; frequently tinged of a bright purple just above the middle joints. *Flowers* upon sub-divided fruit-stalks rising from the bosom of the leaves. *Floral-leaves* 2, small, spear-shaped. WITH.

Galium fol. quat. Sc. Hall. 709. (ST.)—*Valantia Cruciata*, which see. *Cross-wort.* *Mugweed.*

Roughs, and hedge banks.

P. May. June.

GAL'IUM *palustre*. Leaves unequal, strap-spear- white shaped, blunt. Stems spreading.—*

* *Foliis inæqualibus, lineari-lanceolatis, obtusis; caulibus diffusis.* ST.

four-leaved 1. *Quadrifolium*. ST.

Galium palustre. Leaves growing by fours; inversely egg-shaped, unequal. Stems spreading. LINN.—Leaves spear-shaped. ST.

Fl. dan. 423, (many of the leaves represented as pointed. Mr. Woodward. St.)—Pet. 30. 5.—Ger. 967.—(Ger. em. 1126. 2, disfigured by Park. 565, and J. B. iii. 721. 1, have leaves in fixes.—Barr. 82, is *G. uliginosum*.)

Stem rough, branching, striking root at the joints; brittle. HALL.—Lower leaves often in fives and fixes. LEERS.—Oblong egg-shaped. MÆNCH.—Stem flaccid. NECK.—Leaves sometimes in fives, and in one of the whorls 6; flexible, horizontal; or expanding; those at the base of the branches largest; smooth, except at the keel and edges, which are beset with very short hooked hairs; the upper sometimes egg-spear-shaped and inversely egg-shaped, smooth on the keel. Shafts distinctly 2, as short again as the chives. Tips purplish brown; yellowish within. ST.—Bloss. segments between egg and spear-shaped. Tips reddish brown. Leaves, those in the same whorl of different sizes; scarcely rough to the touch. Stem 4 cornered; the corners set with sharp hooked prickles, pointing downwards. Blossoms numerous, white, on lateral and terminating fruit-stalks; forming a sort of rundle, cloven into 3 parts, and again sub-divided. WITH.—White Ladies Bed Straw.

Cows, Sheep, and Horses eat it. Goats and Swine refuse it.

Banks of rivulets, pools, and moist meadows. P. July.

dwarf 2. *nanum*. ST.—Similar to variety 1, but scarcely a foot in length. HALL. ST.—Resembling the figure of *G. trifidum* in the Fl. dan. but readily distinguishable by the blossom with 4 divisions, and the divided fruit-stalks. Found by Dr. Withering. ST.

fix-leaved 3. *hexaphyllum*. ST.—Leaves in fixes, narrower, but always blunt, and generally unequal. As large as variety 1. HALL. ST.—It should seem that Mr. Hudson's new character of "Lower leaves in fours, inversely egg-shaped; upper ones in fixes, strap-shaped; stem spreading," had been taken from a view of this variety only. Branches next in roughness to those of the *G. Aparine spurium*, and *Valantia Aparine*. This plant I have been accustomed with Dr. Withering to refer to the *uliginosum*, and I have received it from the son of Prof. Jacquin with the same title. But the inequality and bluntness of the leaves, and the want of the thornlike point of the *uliginosum* as described by Linnæus, Haller, and Pollich, induce me to believe it with Haller, and, I may add, Ray (hist.) to be a variety of the *palustre*, though, being found in the same situations, it is not unlikely but it may turn out to be a distinct species. ST.—In all respects resembling the *palustre* except that the leaves grow in fixes. WITH.—In the same situations as variety 1.

GAL'IUM *procumbens*. ST. — Leaves in fixés, *trailing* inversely egg-shaped, sharp-pointed, smooth. Stem prostrate. Fruit-stalks 3-forked. HUDS. — Leaves of the flowering stems spear-shaped, slightly hairy; the rest generally inversely egg-shaped, in fours. Stem smooth. —

(*Foliis caulium florigerum senis, lanceolatis, hirsutulis; ramorum subquaternis obovatis; caule prostrato glabro.*) ST.

Pet. 30. 6. — (J. B. iii. 716. 2, seems a different plant, and is referred by Linnæus to *G. uliginosum*.)

Distinguishable from *G. palustre* by its being much less, by the smoothness of its stems and leaves, and by its place of growth. RAY. *hist.* — Seems to be a variety of *G. uliginosum* growing in dry and mountainous pastures. LIGHTF. — But I have found it to be the same in marshes as on hills. ST. — Stems and branches matted together and spreading upon the ground. Fruit smooth. WITH. ST. — Flowering stem from 2 to 6 inches high. Leaves of the stem sometimes inversely egg-spear-shaped; edges beset with minute prickly hairs pointing towards the end; keel smooth; those of the branches sometimes in fives. ST. WITH. — Leaves, often 4 in a whorl at the bottom of the stem, 5 about the middle, and 6 at the top, unequal in size though in the same whorl. Stems twisted; cylindrical to the naked eye, but when considerably magnified they appear to have 4 rounded corners. Rundles of flowers, lateral and terminating, 1, 2, or 3 rundles springing from the whorls at the joints of the stem. Cup none. Style cloven more than half way down. WITH.

Galium montanum. HUDS. who should seem not to have observed that Linnæus had given the same trivial name to a different plant in his *sp. pl.* published in the same year with the 1st edit. of the *Fl. ang.* ST. — (Not *G. caule anguloso, foliis senis, subasperis, aristatis*. HALL. 715, which is *G. asperum*. SCHREB. *spicil.* and *G. sylvestre*. POLLICH. as is evident from a comparison of Haller's description with specimens of both plants. ST.)

Heaths and mountains. HUDS. — Also in marshy places. RAY. ST. — I suspect, however, that Ray's species comprehends also the *G. Mollugo* in its dwarfy state, which see variety 2. ST.

[Dudley Wood. WITH.]

P. June. — Aug.

GAL'IUM *uliginosum*. Leaves in fixés, spear-shaped, *marsh* sharp-pointed, stiff, with prickly serratures bowed backwards. Blossoms larger than the fruit. —

Barr. 82. — J. B. iii. 216. 2.

Leaves free from hairs, ending in a thornlike point. S. vessel smooth. LINN. ST. — Leaves sometimes 7 or 8 in a whorl. HUDS. — Bloys. white, with a tinge of rose-colour. HALL. ST. — Stem,

L 4

angles

TETRANDRIA MONOGYNIA.

angles rough with minute prickles. *Leaves* 5 lines long, (nearly) 1 broad, often bent downwards. **POLLICH. ST.**

(*Aparine Fl. lapp.* 58, must be a wrong reference, as is evident from the seeds being described with hooked hairs. **ST.**)

Meadows, pastures, and wet heaths. On the lower bog Chiffelhurst. **RAY.** P. July.

Horses, Cows, Sheep, Goats, and Swine eat it.

upright **GAL'IUM erectum.** Leaves mostly 8 in a whorl; spear-shaped, with fine prickly ferratures. Panicles with 3 divisions. Stem rough, flaccid. **HUDS.**

(*Jac. austr.* 80, according to **HUDS.** but the specimens of the *G. austriac.* **JACQ.** from the professor's son have a smooth stem, and are a quite different plant. **ST.**—*Jacquin* too describes both the leaves and stem as sleek and shining. **WITH.**)

Root branched. Stems numerous, jointed, rather upright; swelled at the joints; 4 cornered, the edges roughish; somewhat hairy, branched: flowering branches opposite. *Leaves* 8, sometimes 6 in a whorl; fitting, spear-shaped, and between strap and spear-shaped; bare. The terminating panicle divided into 3. *Flowers* white, 4 clefted. *Seeds* small, smooth. **HUDS.**—*Leaves* in whorls, from 4 to 5 inches distant from each other; bent back; ferratures directed towards the point of the leaf, and not bowed back as in the rest of the rough-leaved species. My specimen agrees in every respect except the stem which is smooth. **ST.**

Meadows and wet pastures. [Heydon Common, Norfolk. **Mr. BRYANT.**] P. June. July.

corn **GAL'IUM spurium.** Leaves growing by sixes; spear-shaped, keeled, rough with prickles pointing backwards. Joints of the stem simple. Fruit smooth.—

Vaill. 4. 4.—(a) the seed-vessel, is referred to by *Haller*, though the fruit has a few short hairs upon it. *Mr. Hudson* does not refer to any figure.—(b. is a seed-vessel of the *G. Aparine.*)

Has a near affinity to *G. Aparine*, but smaller. Stems spreading. *Leaves* 6, not 8 as in *G. Aparine*; surface also beset with prickles pointing backwards. *Seeds*, when ripe, just sensibly wrinkled. **LINN.**

Aparine femine laviore. *R. hist.* 484. *syn.* 225, from *Ray's* description of “ seeds not entirely smooth, but much less hairy than those of “ the *G. Aparine*,” appears at least to be the plant of *Vaill.* above referred to, which, whether the *G. spurium* or not, is readily distinguishable from the *V. Aparine* by the first division of the fruit-stalks being surrounded with a whorl of leaves. *Haller*, however, assures

us,

us, that the specimen sent him by Mr. Hudf. was the *Valantia Aparine*. It is pity that this remark of his learned correspondent should have escaped Mr. Hudson's notice. My specimens were cultivated under the name of *G. spurium* in the botanic garden of Mr. Sole, of Bath, but are undoubtedly *V. Aparine*. On these accounts I am induced to insert it, believing that, and not the *G. spurium*, to be the plant described in the Fl. ang. ST.

Corn fields. Isle of Wight, and in Surrey. A. June. July.

GAL'IUM *tricorn'e*. Fruit-stalks from the sides of *three-horned* the stem almost bare of leaves, dividing into 3; pedicles bowed back.*—*Valantia Aparine*. The flowers that have only chives cloven into 3; on pedicles which grow on the fruit-stalk of the flower producing chives and pointals. LINN.

Vaill. 4. 3. a.—(b. is *Aparine semine coriandri saccharati* of Park. given as a synonym in the hort. upf. but which, I think, is very properly regarded by Vaill. as a distinct species.)

Fruit-stalks bearing 3 flowers curved downwards. HALL. ST.—Leaves from 6 to 8; upper surface smooth, rib underneath rough. Fruit roughish, beset with a number of minute tubercles, but which do not end in hairs. POLLICH. ST.—Rundles on fruit-stalks, generally 2 to a whorl, opposite, dividing into 3 branches; not leafy at the base, each bearing one fruit. The above as cultivated. In Vaill. fig. each rundle seldom produces more than one perfect fruit. ST.

Place of growth, &c. see *G. spurium*.

GAL'IUM *ang'licum*. Leaves about 6 in a whorl, *small* spear-shaped, taper-pointed, bent back, fringed with prickly hairs. Stem spreading, rough with prickles pointing backwards. Fruit smooth. HUDS. ST.—Blossoms smaller than the fruit. ST.

Ray 9. 1, at p. 128.—(Barr. 58, resembles it, but the blossoms white, fruit hairy, and the branches with whorls of several leaves.)

Stems from 1 to 1½ foot high, spreading, 4 cornered, knotted, branched; flowering branches opposite. Leaves bare, (except at the edge) sometimes 7 in a whorl, and sometimes strap-spear-shaped. Fruit-stalks 3 forked. Flowers greenish yellow. Seeds larger than the blossom, smooth. HUDS. ST.—Root branching. Stem, branches alternate. Panicle terminating, (not so in Ray's figure.) Blofs. of 4 petals, (an error for 4 divisions?) HUDS.—Leaves, the prickly hairs at the edge pointing forwards, sometimes a few scattered on the

* (Pedunculis lateralibus, subnudis, 3-fidis; pedicellis recurvis.) ST.

the surface; those of the branches generally in twos as in Ray's figure. Branches rough. Fruit-stalks smooth, generally dividing into 3, one of them supporting 2 flowers; sometimes dividing simply into 3 or 2. ST.

Aparine minima. R. syn. 225, is referred to by Hudson, but Ray says, "seeds not so rough as in the other Aparines." Linnæus accordingly has referred it to his *G. parisiense*.—*Aparine minima*. VAILL. par. 14. Here, on the contrary, the descr. corresponds; but the *Gallium Tourn. inst.* 664, which is given as a synonym, is also referred by Linnæus to his *G. parisiense*. I have specimens of the plant of Vaill. collected in the King's garden, at Paris, corresponding exactly with the descriptions given above, and others of the *G. parisiense*. LINN.—I cannot discover any difference between them, except in the roughness and smoothness of the fruit, which induces me to believe the *G. anglicum* of Hudson, and the *parisiense* of Linn. to be mere varieties of one and the same plant. ST.

Least Goose-grafs.

At Hackney, on a wall. *H. ox.* III. p. 333. RAY.—Sandy ground between Dartford and Northfleet. On a wall at Farmingham, Kent. HUDS.—[On the walls of Binham church, Norf. Mr. CROWE.]

A. June. July.

least GAL'IUM *pustillum*. Leaves growing by eights, rough with hairs, strap-shaped, taper-pointed, somewhat tiled. Fruit-stalks forked.—

(*J. B.* iii. 716. 1, is *G. Mollugo*;—*Barr.* 58, *G. parisiense*;—and *H. ox.* ix. 22. 8, not the plant.)

Stems numerous, angular, a finger's length. Leaves 6 or 8 in a whorl, strap-shaped, or between spear and strap-shaped, sharp, rough, as are also the stems, with expanding hairs. Branches few, alternate. Whorls of leaves often so thickly set as partly to tile the stems. Panicle thin set, mostly terminating, upon twice forked fruit-stalks. LINN.—Root branched. Stems 4 cornered, the angles rough with prickles. Leaves 7 or 8 in a whorl; tiling the lower part of the stem. Panicle usually forked. Flowers white. Seeds small, smooth. Nearly allied to the *G. uliginosum*. HUDS.—Angles of the stem, and edges and mid-ribs of the leaves rough with expanding hairs. Leaves rarely up to 8. Mr. WOODWARD.

Limestone Hills, near Kendall, Westmoreland. P. Aug.

dorothy-stalked GAL'IUM *scabrum*.* Leaves mostly in eights, sharp-pointed. Flowering branches generally 3-forked. JACQ. in

* Foliis æstivis, linearibus mucronatis, fulcatis; cauleque pubescentibus. ST.

in syst. veg. ed. xiv. ST.—Leaves strap-shaped, furrowed, beset with short hairs. Stem pubescent.—

Jacq. austr. v. 422.

Stems upright, closely beset with very short soft hairs. Leaves sometimes 7, those of the branches fewer, beset with soft hairs. Fruit smooth. JACQ. ST.—Stems above, smooth and shining. JACQ.—But in his figure it is represented as beset with hairs, as are my specimens, even to the last sub-divisions. No appearance of prickles on the stem or leaves. Leaves, edges turned in; lower ones bent down. Flowering branches opposite, one always shorter than the other. Fruit-stalks smooth. ST.

[Hedgerow in a marly soil on the side of Red House Lane, near Worcester. ST.] P. Aug.

GAL'IUM *ve'rum*. Leaves 8 in a whorl; furrowed. yellow Flowering branches short.—

Ludw. 39, but specimen unnaturally bowed down.—Mill. 139. 1.—

Scheldr. 61.—Fuchs. 196, cop. in J. B. iii. 720. 1, Trag. 492,

Dod. 355. 1, which repr. in Lob. obs. 467. 3, Ger. em. 1126.

1, and cop. in Park. 564. 1, and in H. ox. ix. 21. row 2. 1,

Gallium.—Matth. 1131.—Ger. 967. 1.—Blackw. 435.—Pet.

30. 8.

Tips, after shedding their dust, become brown. LINN.—This happens also in other species. WITH.—Leaves brittle, bent backwards when the flowers expand. SCOP.—Stem with large joints; cylindrical, scored, a little woolly. Leaves smooth, rolled back at the edges; from 5 to 9 in a whorl, but generally 8 upon the principal stem. Blofs. segments greatly expanded. Shafts cloven more than half way down. Blofs. chives and pointal yellow. WITH.

Yellow Ladies Bed Straw. Cheese Rening. Petty Muguet.

Sides of fields and roads, frequent.

P. July. Aug.

The flowers will coagulate boiling milk; and the best Cheshire cheese is said to be prepared with them. The French prescribe them in Hysteric and Epileptic cases. Boiled in alum-water they tinge wool yellow. The roots dye a very fine red, not inferior to madder, and are used for this purpose in the island of Jura. Pennant 1772. p. 214.

Sheep and Goats eat it. Horses and Swine refuse it. Cows are not fond of it.—This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea; hollow within, and covered with a purplish skin. WITH.

GAL'IUM *Mollu'go*. Leaves 8 in a whorl, between Madder egg and strap-shaped, sharp-pointed; somewhat serrated, greatly

greatly expanded. Stem limber. Branches expanding.
LINN.—Stem 4 square. ST.

Fl. dan. 455.—*Ger.* 967. 4.—*Fuchs.* 281, *cop. in J. B.* iii. 716.
1.—*Lob. obs.* 468. 1, *repr. in Ger. em.* 1118. 2.—*Pet.* 30. 4.
Math. 921, *not in flower or fruit.*—(*Blackw.* 168, *seems rather*
the sylvaticum, as is *H. ox.* ix. 22. row 1. 1.—*In J. B.* iii. 721.
1, *the leaves are upright.*)

Stem generally weighed down by the weight of the branches. The old stems send forth buds. *Leaves* never more than 1 inch long. SCOP.—*Stem* quadrangular, distinguishes it from the *G. sylvaticum*. ST.—*Leaves* suddenly tapering to a sharp point. *Flowering branches* very much branched. HALL. ST.—*Stem* about 4 feet long; 4 edged, branched; thickest just above the joints, nearly smooth. *Leaves* from 6 to 8 in a whorl; unequal in size, oblong-egg-shaped, a little hairy on the back and at the edges, but not rough to the touch. *Flowers* very numerous, on fruit-stalks rising from the whorls of leaves; generally 2 long and 2 short flowering branches from each whorl. *Bloss.* with 4 spear-shaped, pointed segments; white. *Tips* yellow. *Shaft* cloven down to the seed-bud, or more properly *shaft*s 2. *Seeds* 2, smooth; 1 generally much larger than the other. The whole plant smooth to the touch. WITH.

White Ladies Bed Straw. Wild Madder. Great Bastard Madder.

Hedges, roughs, and heaths, frequent. P. June.—Aug.

mountain 2. *Leaves* very entire, bent back; seldom exceeding 3 or 4 inches in height. SCOP.

Mcclugo montana minor. Gallo albo similis. R. syn. 224. WITH.—It seems at least to comprehend this variety as well as the *G. procumbens*. ST.

Mountains. SCOP.—Malvern Hills. ST.

** *Fruit rough.*

cross-leaved GAL'IUM boreale. *Leaves* 4 in a whorl, spear-shaped, smooth, 3-fibred. *Stem* upright. *Seeds* rough with strong hairs.—

Pet. 30. 7.—*J. B.* iii. 716. 3.

Leaves blunt, reflected at the edges; 2 leaves rising at each branch of the panicle. SCOP. ST.—*Leaves* sometimes oval-spear-shaped. *Flower leaves* oval. Mr. WOODW. ST.—Or egg-shaped. *Stem* and *leaves* often beset with with very short hairs, sometimes almost quite smooth. ST.—*Bloss.* white. WITH.

Cross-wort Madder.

Mountains in Westmoreland and Wales. [Near Pooley Bridge, by Ullswater, Cumberland. Near the ferry at Winander Meer. Mr. WOODWARD.]

P. July. Aug.
The

The roots afford a red dye for woollens.

Horses, Sheep, and Goats eat it. Cows not fond of it. Swine refuse it. LINN.

GAL'IUM *Apari'ne*. Leaves 8 in a whorl; spear-shaped; keel rough with prickles pointing backwards. Joints woolly. Fruit rough with strong hairs.—*Cleavers*

Curt. ii. 17.—*Fl. dan.* 495.—*Sheldr.* 13.—*Vaill.* 4. 4. (b) fruit.

—*Dod.* 353, repr. in *Lob. obs.* 464. 3, *Aparine*, Ger. 963. 1,

Ger. em. 1122, and cop. by Park. 567, and *H. ox. ix.* 22. row

2. 1, *Aparine*.—*Pet.* 30. 11.—*Blackw.* 39.—*Matth.* 807.—

Fuchs. 50, cop. in *J. B.* iii. 713, and *Trag.* 494.—*Tourn.* 39.

1, parts of fructification.—(*Barr.* 81, seems rather *G. maritimum*.)

Stem 4 cornered, the angles set with prickles pointing backwards.

Joints woolly at the base. Leaves 8 or 10 in a whorl, between strap

and spear-shaped, rough above, smooth underneath; the edges and

the keel set with prickles pointing backwards. Branches opposite.

LINN.—*Bloss.* divided down to the base. Shafts 2, standing wide

afunder. SCOP. ST.—*Bloss.* scarcely longer than the seed-bud.

Tips yellow. ST.—*Empal.* wanting. CURT. WITH.—Leaves end-

ing in a purplish awn-like point. Mr. HOLLEFEAR.—Fruit set

with hooked bristles. Prickles on the stem pellucid, pointing down-

wards. Joints with a few white, woolly hairs. Leaves from 4 to 7,

or more, in a whorl. Bloss. white. WITH.

Catchweed. Goosegrass. Cleavers. Clivers.

Hedges, frequent.

A. May. June.

The branches are used by the Swedes instead of a foi to strain milk. Young geese are very fond of them. The seeds may be used instead of coffee. The plant is eaten by Horses, Cows, Sheep, and Goats. Swine refuse it. LINN.—The expressed juice of the stem and leaves, taken to the amount of 4 ounces, night and morning, is very efficacious in removing many of those cutaneous eruptions, which are called, although improperly, Scorbutic. It must be continued for several weeks.

The *Sphinx stellatarum*, and the *Sphinx Euphorbia*, feed upon the different species of Galium.

128. ASPER'ULA. Woodroof.

EMPAL. Cup small; 4 toothed; superior.

BLOSS. 1 petal, funnel-shaped. Tube long; cylindrical. Border with 4 divisions; segments oblong, blunt, reflected.

CHIVES. Threads 4; situated at the top of the tube. Tips simple.

POINT. Seed-bud beneath; double; roundish. Shaft thread-shaped; cloven at the top. Summits knobbed.

S. VESS. 2 dry globular Berries adhering together.

SEEDS. Solitary; roundish; large.

ESS. CHAR. Bloss. 1 petal, funnel-shaped. Seeds 2, globular.

Obs. The distinction between *Asperula* and *Galium*, taken from the length of the tube of the blossom, is sufficiently obvious in their respective extremes, but, in some of the former, it becomes so short, that the 2 genera seem to run into one. Wigg.

sweet ASPER'ULA *odora'ta*. Leaves 8 in a whorl, spear-shaped. Flowers in bundles, on fruit-stalks.—

Curt. iv. 43.—Sheldr. 29, best engraved.—Clus. ii. 175. 2, repr. in Dod. 355. 2, Lob. obs. 464. 2, Ger. em. 1124. 1, and cop. in Park. 563. 1, and improved in H. ox. ix. 22. row 1, fig. the 4th.—Fl. dan. 562, leaves too rough, and longer than usual.—Ger. 966.—Trag. 496.—Pet. 30. 9.—Blackw. 60.—J. B. iii. 718. 3.—Mill. 55. 2.

Fruit covered with stiff hooked hairs. Mr. WOODWARD. ST.—Panicle with 3 divisions. Seed-buds rough with hair. Flowers of a beautiful snowy white, and, when a little magnified, appear sprinkled with shining, frosted particles. Leaves a little rolled back at the edges, and set with soft minute thorns. Cup not very evidently toothed. WITH.

Woodroof. Woodrow. Woodrowell. Woodruff.

Woodderowffe, as spelt in some old authors. The repetition of the double letters affords great amusement to children learning to spell.

Woods and shady places. [At the Leafowes, near Halesowen. W.]

P. May.

The scent of it is said to drive away Ticks and other insects. LINN.—It gives a grateful flavour to wine.

Cows, Horses, Sheep, and Goats eat it.

ASPER'-

ASPER'ULA *cynan'chica*. Leaves 4 in a whorl, Squinancy strap-shaped. Upper leaves opposite. Stem upright. Flowers 4 clefted.—

J. B. iii. 723. 2.—Pet. 30. 12.—H. ox. ix. 22. 9.

Stem rough, about 4 inches high. Seed-buds red. Flowers rough and wrinkled on the outside. LINN.—Stem from a hand's breath to 1½ feet high, reclining, rigid. Leaves, 2 of them larger than the other 2; those of the upper part of the stem, and of the branches, opposite, the place of the 2 which seem wanting supplied by 2 very small leaves. Blofs. whitish, with a tinge of purple. POLLICH. ST.—Leaves frequently pointing 1 way, sometimes 5. Mr. WOODW. ST.—The supplementary leaves awl-shaped, not above a line long, resembling leaf-scales. Blofs. with a slight roughness on the outside. Seed-bud the same in a less degree. ST.

Squinancy-wort.

Limestone hills, and high chalkey soils. [Woods in Herts. Swaffham, Norfolk. Newmarket Heath. Dunstable Hills. Mr. WOODWARD.—Armingale Wood, by Norwich. Mr. CROWE.—Near Epfom, Surrey, in chalk. ST.] P. June. July.

127. SHERAR'DIA. Spurwort. (Park.)

TEMPAL. Cup small; with 4 (sometimes 5 and 6. WITH.) teeth; superior; permanent.

BLOSS. 1 petal; funnel-shaped. Tube cylindrical, long. Border with 4 divisions. Segments flat and sharp.

CHIVES. Threads 4; situated at the top of the tube. Tips simple.

POINT. Seed-bud beneath; double; oblong. Shaft thread-shaped; cloven at the top. Summits nearly globular.

S. VESS. None. Fruit oblong; crowned; separable lengthways into 2 seeds.

SEEDS. 2; oblong; convex on one side; flat on the other; with 3 sharp points at one end.

ESS. CHAR. Blofs. 1 petal, funnel-shaped. Seeds 2, with 3 teeth.

SHERAR'DIA *arven'sis*. All the leaves in whorls. little Flowers terminating.—

Fl. dan. 439.—Blair 4. 6, flower-head.—Pet. 30. 10.—J. B. iii. 719. 3.—Barr. 766, and 541. 1.—(Lob. obs. 464. 1, cop. in H. ox. ix. 22. row 2. 1, Rubeola; J. B. iii. 719. 2; and Park. 276. 5, quite other plants.)

Cup

Cup with several teeth, from 1 to 6; crowning the seed-vessel, which consists of 2 cells; 1 seed in each. *Scop.*—*Bloss.* blue, or purple; tube very long; segments egg-shaped. *Chives*, dust white. *Floral-leaves* terminating, compressed, deeply divided into 8 parts, and enclosing 3 or 4 florets. *Leaves* on the stem, 6 in a whorl, sometimes only 5. All the leaves set with fine bristles along the edges and the back. *Stem* 4 cornered, set with strong hairs. The whole plant is harsh and rough. *With.*

Little Field Madder.

Corn and fallow fields, common.

A. May.—Sept.

Goats are very fond of it. Horses eat it. Sheep are indifferent to it.

155. C O R ' N U S. Cornel.

EMPAL. Fence generally 4 leaves; including several florets. *Leaves* egg-shaped; coloured; deciduous; 2, opposite, smaller. *Cup* very small, 4 toothed; superior; deciduous.

BLOSS. *Petals* 4; oblong; sharp; flat; smaller than the fence.

CHIVES. *Threads* 4: awl-shaped; upright; longer than the blossom. *Tips* roundish; fixed sideways.

POINT. *Seed-bud* beneath; roundish. *Shaft* thread-shaped; as long as the blossom. *Summit* blunt.

S. VESS. Pulpy; including a nut or stone; nearly globular, and dimpled.

SEED. A heart-shaped, or oblong nut; with 2 cells.

ESS. CHAR. Fence generally 4 leaved. *Petals* 3, superior. *Nut* of 2 cells, covered with pulp.

female C O R ' N U S *sanguinea.* A tree. Tufts of flowers naked. Branches straight.—

Fl. dan. 431, in flower.—*Matth.* 260, in fruit.—*Lob. obs.* 592. 1, cop. in *Park.* 1521. 3.—*Gcr.* 1283.—*Dod.* 782. 2, repr. in *Ger. em.* 1467.—*Trag.* 1004.

Tuft of flowers divided into 5 parts, and these again sub-divided. *Flowers* sometimes without chives. *Shaft* furrounded at the base by a circle, composed of 4 segments. *Berry* black; crowned with the shaft and the cup, the teeth of which bend inwards. *Scop.*

Dogberry tree. *Hounds tree.* *Hounds berry.* *Prick wood.* *Prick timber.* *Gatten tree.* *Catter tree.*

Woods and hedges.

.S. June.

The

The wood is very hard and smooth, fit for the purposes of the turner. The berries are bitter and styptic: they dye purple.

Horses, Sheep, and Goats eat it. Swine and Cows refuse it.

COR'NUS suecica. Herbaceous. Branches in pairs, dwarf (or rather with 2 branches, as they proceed from the base of 2 opposite leaves. ST.)

Fl. dan. 5.—Penn. Tour Scotl. 1st ed. p. 314.—Dill. élth. 91.—Fl.

lapp. 5. 3. (a) in the first stage of its growth, but its blos. already expanded; (b) in fruit.—Cluss. 1. 60. 1; repr. in Ger. em. 1296.

5, and cop. in Park. 1461. 4, and J. B. ii. 109. 1.—Ger. 1113.

Stem 4 cornered, rarely branched; forked at top. Leaves oval, lower ones rounder; entire, opposite. General fence 4-leaved, enclosing many flowers; little leaves white, deciduous, egg-shaped. Flowers very small, in an-undivided rundle. Fruit-stalk solitary, terminating, rising from the fork of the stem. The 4 leaves of the fence have such a resemblance to petals, that it is easy at first sight to imagine it a compound flower. ROTH.

Cornus herbacea. HUDS. The old name of the Fl. lapp. which Linnæus changed to *suecica* on characterising the *canadensis* which is alike herbaceous. ST.

Dwarf honeysuckle.

Hills in the North.

P. June. July.

The pulpy berries, which taste insipidly sweet, are acceptable to children.

Horses, Sheep, Goats, and Swine eat it. Cows refuse it. LINN.

177. ALCHEMIL'LA. Ladies-mantle.

EMPAL. Cup 1 leaf; tubular; permanent. Rim flat, with 8 divisions: every other Segment smaller.

BLOSS. None.

CHIVES. Threads 4; awl-shaped; upright; small; standing on the rim of the empalement. Tips roundish.

POINT. Seed-bud egg-shaped. Shaft thread-shaped; as long as the chives; standing on the base of the seed-bud. Summit globular.

S. VESS. None. The neck of the empalement closes upon the seed, and does not open again.

SEED. Solitary; oval; compressed.

ESS. CHAR. Cup with 8 clefts. Blos. 0. Seed 1.

Obs. Belongs to the natural order of *SENTICOSÆ*, or Tormental tribe. *ST.*

common *ALCHEMIL'LA vulgaris.* Leaves gashed.—

Ludw. 176.—*Fl. dan.* 693.—*Blackw.* 72.—*Matth.* 1177.—*Trag.* 512.—*Fuchs.* 612, *cop. in J. B.* ii. 398. (i) *Dod.* 140. 2, *Ger. em.* 949, and *Pet.* 9. 9.—*Clus.* ii. 208. 2, *repr. in Lob. obs.* 378. 3; and *cop. in Park.* 538, *H. ox.* ii. 20. row 3. 1, and *Pet.* 9. 10.—*Ger.* 802.—*Mill.* 18. 2.

Flowers forming a kind of rundle, the *General fence* being a leaf which entirely surrounds the stalk, but the *Partial fence* goes only half way round. *Cup*, the mouth of its tube closed by a yellow fleshy ring, which, perhaps, answers the purpose of a honeycup. *Bloss.* yellowish green. *Tips and summit* turning black after flowering. *Leaves* cloven generally into 7 lobes, the lobes serrated, each tooth ending in a yellowish white point. *Leaf-stalk* sending a rib along the middle of each lobe of the leaf. *Seeds* generally only 1, but sometimes 2 in each seed-vessel. *WITH.*

small *β. minor.* LINN. HALL.

downy *δ. pubescens.* HALL.—*minor.* Leaves pubescent. HUDS.

Pluk. 240. 2.—*Barr.* 728.—*Mill.* 18. 1

Alchemilla alpina hybrida, α. LINN. *sp. pl.* who supposes it to be the product of the seed of the *A. alpina*, impregnated by the dust of the *A. vulgaris*.*

On mountains.

P. July.

white (*alba.*) Empalement white.

Bearsfoot, in the North.

Meadows and pastures, frequent.

P. June.—Sept.

The whole plant is astringent. In the province of Simolandia, in Gothland, they make a tincture of the leaves, and give it in spasmodic or convulsive diseases.

Horses, Sheep, and Goats eat it. Swine refuse it. Cows are not fond of it.

Cinquefoil *ALCHEMIL'LA alpina.* Leaves fingered, serrated.—

Fl. dan. 49.—*Lob. adv.* 307. 1.—*Pet.* 9. 11.—*Barr.* 756.—*Park.* 394. 3.—*J. B.* ii. 398. (f) 1.—*Clus.* ii. 108. 1, *repr. in Ger. em.* 988. 5, and *cop. in Ger.* 837. 5, and *H. ox.* ii. 20. row 2. 3, leaves not serrated as they ought to have been.—[*Munting. phytogr.*

* The letter β, in *sp. pl.* and *syss. pl.* should be placed even with *A. minor* *Tourn. &c. ST.*

togr. curios. t. 90, is a very good figure, but inferior to Fl. dan. Its synonyms refer to Potentilla argentea. Mr. WOODWARD.]

Leaves of a shining white underneath; divided into 7 little leaves, and ferrated only at the ends. LINN.—Little leaves sometimes 5, those of the stem-leaves 3. Mr. WOODWARD.—Flowers greenish.

Mountains in the North. Ulfwater, near Penrith. RAY. [Rocks in Burrowdale, near Kewick, Cumberland. Mr. WOODWARD.]

P. July.

Goats and Cows eat it. Horses, Sheep, and Swine refuse it.

ALCHEMILLA *Aph'anes.* HALL. LEERS.— *Parsleypiert*
Flowers from the base of the leaves. WIGG. ST.

Pet. 9. 12.—H. ex. ii. 20. row 3. 4.—Lob. adv. 324, repr. in Ger. em. 1594.—J. B. iii. p. 2. 74. 3.—Park. 449, a copy of Lob. but increased in size beyond nature.

Sometimes only 1 pointal and 1 seed. LINN. ST. bot. arr. ed. I. —and 1 chive. ST. ib.—The structure of the flower in all respects the same with that of the Alchemilla. Empal. cloven into 8; the alternat segments exceedingly small, but always present. Seed 1, never 2; at least in all which I have examined. LEERS. ST. May, 1775.—Chive only 1 in all the flowers I have examined. Tip oblong. Dust oblong. ST.—Stems trailing, leafy. Leaves divided into 3 lobes, jagged. Flowers small, greenish white. WITH.

Aphanes arvensis. LINN.—Parsleypiert.

Corn fields and dry gravelly lands.

A. May.—Aug.

Order II.

DIGYNIA; II. POINTALS.

180. BUFO'NIA. Toadgrafs.

EMPAL. *Cup* 4-leaved, upright, permanent. *Little leaves* awl-shaped, keeled, membranaceous at the edges.

BLOSS. *Petals* 4; oval; upright; equal; notched at the end; shorter than the empalement.

CHIVES. *Threads* 4; equal; as long as the seed-bud. *Tips* double.

POINT. *Seed-bud* egg-shaped; compressed. *Shafts* 2; as long as the chives. *Summits* simple.

S. VESS. *Cupful* oval; compressed; of 1 cell, and 2 valves.

SEEDS. 2; oval; compressed; but marked with a little protuberance. Convex on one side.

ESS. CHAR. *Cup* 4-leaved. *Bloss.* 4 petals. *Caps.* 1 cell, 2 seeds.

Obs. Lætling once found 4 chives, but afterwards altered his opinion. Allstrømer often found 4. Gerard sometimes 4, sometimes 2, rarely 3. LINN.

Chickweed BUFO'NIA tenuifolia.

Fluk. 75. 3.

Stem cylindrical, upright, jointed. *Branches* alternate. *Leaves*, 2 at each joint of the stem. *Flowers* at the base of the leaves; white.

WITH.

Bastard Chickweed.

Hounslow Heath. Sea Coast, near Boston, Lincolnshire.

A. Huds. P. Linn. May. June.

182. CUSCUTA. Dodder.

EMPAL. *Cup* 1 leaf, glass-shaped, 4 clefted, blunt, fleshy at the base, (5 cornered. POLLICH. ST.)

BLOSS. 1 petal, egg-shaped, (permanent. ST.) a little longer than the empalement: *Mouth* 4 clefted, blunt: *Honeycup* 4 scales, strap-shaped, cloven at the end, sharp, united to the blossom at the base of the chives:

CHIVES. *Threads* 4, awl-shaped, as long as the empalement. *Tips* roundish.

POINT. *Seed-bud* roundish. *Shafts* 2, upright, short. *Summits* simple.

S. VESS. Fleshy, (membranaceous. ST.) roundish, 2 celled, cut round.

SEEDS. 2 (in each cell. ST.)

ESS. CHAR. *Empal.* 4 (or 5. ST.) clefted. *Bloss.* 1 petal. *Capsule* 2 cells.

OBS. Sometimes the prevailing number in the parts of fructification is five. LINN.—The above description of Linnæus made from *C. europæa*. In its *empal.* it resembles *Polygonum*; in its *blossom* and *capsule* cut round, *Plantago*; but in its *capsule* with 2 bills (*sub-birostris*) it shews an affinity to *Saxifraga*, between which and *Chrysosplenium* I would propose to place it in the order *Succulente*. ST.

CUSCUTA *europæa*. Flowers sitting. LINN.—greater
Blossoms pitcher-shaped; segments bluntish.* The number
of parts generally 4, but sometimes 5. ST.

Blackw. 554, with parts of fructification.—*Fl. dan.* 199.—*Fuchs.*

348.—*Matth.* 1279.—*Trag.* 810.—*Dod.* 554, repr. in *Lob. obs.*

233. 1, *Ger. em.* 577, and cop. in *Park.* 10. 2, and *Ger.* 462.

—*J. B.* iii. 266.

This plant is parasitical, without seed-lobes. The seed itself opens and puts forth a little spiral body, which does not seek the earth to take root, but climbs in a spiral direction from right to left, up other plants, from which, by means of vessels, it draws its nourishment. *Leaves* none, except here and there a very small membranaceous scale lying close under a branch. LINN. ST.—*Flowers* in globular heads not surrounding the stem but from the side where it divides into branches. J. BAUH. ST.—The seeds sown in a pot produced plants, but which soon died, unless they could attach themselves to some other plant. PARK. and RAY *hist.*

* Corollis urceolatis, laciniis obtusiusculis.

As soon as the shoots have twined about an adjoining plant, they send out from their inner surface a number of little vesicles or papillæ, which attach themselves to the bark, or rind of the plant. By degrees, the longitudinal vessels of the stalk, which appear to have accompanied the vesicles, shoot forth from their extremities, and make their way into the foster plant, by dividing the vessels, and insinuating themselves into the tenderest part of the stalk; and so intimately are they united with it, that it is easier to break than to disengage them from it. *Guetard in Gent. Mag.*

Bloss. white, sometimes with a tinge of purple. *VAILL. ST.*—*Empal.* like a spice clove, running down, as it were, into a kind of fruit-stalk; *segments* egg-shaped, often rounded at the end. *Capf.* cut round close to the base. *Partition* rising from the lower half of the capsule. *ST.*

On furze bushes, near Mollance, in Galloway. *LIGHTF.* who refers to *Fl. dan.* 199, but he appears to have inserted it as a Scotch plant on the authority of a correspondent, not from his own examination. Mr. Hudson also has given *C. europ.* but, from his account of it, his plant appears to have been *C. Epithymum*. I have never seen the true *europæa* of British growth. My specimens gathered in Champagne France, and from Germany. *ST.*—The whole plant is bitter. It affords a pale reddish colour.

Cows, Sheep, and Swine eat it. Horses refuse it. Goats are not fond of it. *LINN.*—Hops, flax, heath, and nettles are its common support.—It never fixes upon trees or shrubs. *SCOP.* but Pollich mentions having found it on some of the *Ericas*. *ST.*

lesser CUS'CUTA *Epithymum*. Flowers sitting, surrounded with floral-leaves. Blossoms 5-clefted. *LINN.*—Bell-shaped. deeply cloven; segments taper-pointed.* *The number of parts constantly 5. ST.*

Fl. dan. 427.—*Park.* 10. 1.—*Math.* 1277.—*Pomet.* 42. 9.

Bloss. with 5 divisions, none with less. Shape of *bloss.* and *empal.* agrees with *Fl. dan.* 427, though in habit it resembles t. 199. Mr. WOODWARD. *ST.*—*Empal.* between cloven and divided; *segments* egg-shaped, taper-pointed, unequal, not running down into a kind of fruit-stalk as in *C. europæa*. *ST.*

Corn fields and heaths, very common. *HUDS.*—My specimens, dried from Mr. Woodward, gathered by Mr. Pitchford; from Dr. Broughton, gathered, I believe, in Scotland; and from the son of Prof. Jacquin. *ST.*

A. June.—Aug.

* Corollis campanulatis partito-quinquefidis; laciniis acuminatis.

178. APH'ANES. Parfleypiert.

EMPAL. *Cup* 1 leaf, tubular, permanent: *Mouth* flat, 4-clefted; *segments* alternately very small.

BLOSS. None.

CHIVES. *Threads* 4; upright; awl-shaped; very small; standing upon the rim of the empalement. *Tips* roundish.

POINT. *Seed-buds* 2; egg-shaped. *Shafts* thread-shaped; as long as the chives; growing from the base of the seed-bud. *Summits* somewhat globular.

S. VESS. None; the *Rim* of the empalement closing, confines the seeds.

SEEDS. 2; egg-shaped; tapering; compressed; as long as the shafts.

ESS. CHAR. *Empal.* 4-clefted. *Blöfs.* 0. *Seeds* 2, naked.

OBS. It very nearly resembles the *ALCHEMILLA*. It has sometimes only 1 pointal and 1 seed. LINN. — Seed 1. POLLICH. RETZ. &c.

APH'ANES *arven'sis*, see *Alchemilla Aphanes*.

common

Order III.

TETRAGYNIA; IV. POINTALS.

184. I' L E X. Holly.

EMPAL. Cup 4-toothed, very small, permanent.

BLOSS. 1 petal, with 4 divisions, wheel-shaped; segments roundish, concave, expanding, rather large, adhering by the claws.

CHIVES. Threads 4; awl-shaped; shorter than the bloss. Tips small.

POINT. Seed-bud roundish. Shafts none. Summits 4, blunt.

S. VESS. Berry roundish, with 4 cells.

SEEDS. Solitary; hard as bone; oblong; blunt; bellying on one side, angular on the other.

ESS. CHAR. Empal. 4-toothed. Bloss. wheel-shaped. Shaft 0. Berry 4-seeded. LINN.—Fertile flowers; empal. 5-toothed. Bloss. with 5 divisions, wheel-shaped. Chives 5, wheel-shaped. Shaft 0. Summits 4. Berry 4-seeded. Barren flowers; empal. 4-toothed. Bloss. with 4 divisions. Chives 4. HUDS. Polygamia Dioecia.

OBS. Great variations take place in the flowers of the *Ilex Aquifolium*; sometimes the chives and pointals are found on distinct plants; sometimes on the same plant, but in different flowers; sometimes again the flowers have 5 chives; and frequently the disposition of the chives and pointals is such, that it claims a place in the second Order of the twenty-third Class. WITH.—Much has been written about the proper place of this plant in the Linnæan system, but before it be removed to another class, it is necessary to shew that the majority of the other 9 species are liable to similar sexual variations. ST.

common

I' L E X *Aquifolium*. Leaves egg-shaped, sharp, thorny.—

Fl. dan. 508.—Mill. 46.—Hunt. Evel. 383.—Blackw. 205.—Nat.

displ. ii. 9. A. at p. 71.—Dod. 658.—Matth. 161, cop. in Jonst.

63. 6.—Ger. 1155.—Lob. obs. 582. 1, repr. in Ger. em. 1338.

—Trag. 1067.—Park. 1487. 1.

Leaves without prickles, Park. 1487. 2, but not a distinct variety, as the leaves of the lower branches are prickly.

Leaves

Leaves furrounded by a strong woody border; tough, shining, evergreen; frequently indented, and each tooth ending in a strong, sharp, thorn. The leaves upon the same tree are some of them entire, and some of them thorny. *Flowers* small, whitish, lateral, on short fruit-stalks, generally 3 together, springing from a sort of scale upon the branch. *Berries* scarlet, crowned with the cup, which turns black. *Seeds* 3 or 4. I have found it in flower so late as the 2d week in June, and then *all the flowers* had 4 chives and 4 pointals. WITH.

2. Berries yellow. ST.

yellow berried

Agrifol. baccis lnt. &c. RAY. *syn.* 466.—Wilton, Suffolk. RAY.

Woods, hedges, heaths. [On the north side of the Wrekin, in Shropsh. the trees grow to a large size. WITH.] T. April.—June.

All the varieties which gardeners reckon to the amount of 40 or 50, are derived from this one species, and depend upon the variations of the leaves or thorns, and the colour of the berries.

Sheep are fed in the winter with the croppings. *Pennant's Tour.* 772. p. 32. Birds eat the berries. The bark fermented and afterwards washed from the woody fibres makes the common Birdlime. It makes an impenetrable fence, and bears cropping; nor is its verdure, or the beauty of its scarlet berries, ever observed to suffer from the severest of our winters. The wood is used in fincering, and is sometimes stained black to imitate Ebony. Handles for knives, and cogs for mill-wheels are made of it.

188. S A G I ' N A. Pearlwort.

BLOSS. *Cup* 4-leaved. *Little leaves* egg-shaped; concave; greatly expanded; permanent.

BLOSS. *Petals* 4; egg-shaped; blunt; expanding; shorter than the empalement.

CHIVES. *Threads* 4; hair-like. *Tips* roundish.

POINT. *Seed-bud* somewhat globular. *Shafts* 4; awl-shaped; bent backward; downy. *Summits* simple.

3. VESS. *Capsule* egg-shaped; straight; with 4 cells, and 4 valves.

SEEDS. Numerous; small; fixed to the receptacle.

ESS. CHAR. *Empal.* 4-leaved. *Petals* 4. *Caps.* 4-celled, 4-valved. *Seeds* many. [*Caps.* 1 cell. *Cup-leaves* sometimes 5. ST.]

S A G I ' N A *procumbens*. Stems trailing. LINN.— *trailing*
"In dry situations upright. ST.)

Curt.

Curt. iii. 27.—*Seguier.* i. 5. 3.—*Park.* 1340. 6.—*Pet.* 59. 10.—
(*Ger. em.* 567. 5, not the plant.)

Flowers sometimes with petals, and sometimes without. LINN.
JACQ. WITH. ST.—In all the specimens of it gathered in the fields, I could never find any petals, but the same plant being transplanted into the garden produced petals the 2d year. The Root when cultivated perennial. JACQ. enum.—Stem sometimes not above 2 lines high. Leaves, the edges skinny towards the base, and fringed. Empal. leaves upright until the S. vessel opens. S. vess. valves thin, transparent, and, from the minuteness of the petals, may be easily mistaken for them. ST.—Blossoms greenish white. The 4 valves of the capsule, after it opens, have so much the appearance of petals, that I was once deceived by them. WITH.

Chickweed-Breakstone.

Walls, roofs, sandy, and also boggy places; garden walks, paved courts, common, A. June.

annual β . *apetala.* HUDS. *Sagina apetala*, which see.
succulent γ . Leaves shorter, thicker, and more succulent. RAY.

annual SAGI'NA *apet'ala*. Stem rather upright, downy. Flowers alternate; without petals. LINN.—Petals very minute. ST.

Curt. iv. 49.—*Fl. dan.* 845, (see *Sagina erecta*.)—*Plott. oxf.* 9. 7. at p. 146.—*Pet.* 59. 11.—*Pluk.* 74.

Differs from the *S. procumbens* in the root being annual; the stems not striking root from the joints, and being of a dirty brownish green. PLOTT. RAY. ST.—Fruit-stalks smooth. Empal. smooth, its leaves blunt. Petals scarcely twice as large as the tips, whence possibly unobserved by Linnæus; inversely egg-shaped, and sometimes heart-shaped; greenish, resembling honeycups. Summits very short. Capsule of 1 cell; valves larger than the leaves of the empalement, permanent. ST.—Leaves hairy. Hairs not terminated by minute globules as in *Spergula laricina*. CURT. MR. WOODW.

Sagina procumbens apetala. HUDS.

[On a wall belonging to the Alms-house near St. Oswald's, Worcester. ST.]

upright SAGI'NA *erect'a*. Stem upright; generally with only 1 flower. LINN.—Leaves of the cup spear-shaped, tapering to a point. ST.—Stem sometimes ascending. MR. WOODWARD.

Curt. ii. 23.—*Ray* 15. 4. at p. 348.—*Vaill.* 3. 2.—*Pet.* 59. 9.—
(*Fl. dan.* 845, referred to by Murr. is surely the *procumbens* *apetala*, for Mull. himself remarks that it has no petals, and that the leaves

leaves of the empalement are egg-shaped and concave.—Barr. 1165, cannot surely be the plant.)

Stem bearing from 1 to 3 flowers. LINN.—Leaves between strap and spear-shaped. GER. prov. — Flowers closed. Shafts often 5. POLLICH.—Stem in dry seasons generally simple; in moist grounds several, ascending, each supporting from 1 to 3 flowers. Shafts very short. Capsule opening generally with 10 teeth. Agrees with *Sagina* in the number of its parts; in its habit and glaucous appearance it approaches to the *Stellaria Holosteam*, but in its seed-vessels it agrees with *Cerastium*. CURT.—It is truly a *Cerastium*. The *Alpine media* and *Cerastium semidecandrum* are *Cerastiums* with half the usual complement of chives. This is a *Cerastium* of the same kind, with one-fifth of its usual number of parts taken away; a circumstance which Linnæus notices in many genera. ST.—Stems, varieties of above-mentioned do not seem owing to a wet or dry season, having, for some years past, found them with these different appearances in their respective places of growth. MR. WOODWARD.—Leaves smooth. Blossoms white. WITH.

Least stitchwort.

Gravelly soil. [Heaths in Norfolk, frequent. MR. WOODWARD.]

A. April. May.

186. POTAMOGE'TON. Pondweed.

EMPAL. None.

BLOSS. *Petals* 4; nearly circular; blunt; concave; upright; furnished with a little claw; deciduous.

CHIVES. *Threads* 4; flat; blunt; very short. *Tips* double; short.

POINT. *Seed-buds* 4; egg-shaped; but taper-pointed. *Shaft* none. *Summits* blunt.

S. VESS. None.

SEEDS. 4; roundish, taper-pointed, bellying on one side, flattened on the other, and angular.

ESS. CHAR. *Empal.* 0. *Petals* 4. *Shaft* 0. *Seeds* 4.

Obs. The leaves of those species which grow under water are pellucid; those of the *natans* which float on the surface or vegetate in air opaque; those of the *densum*, *ferratum*, and *setaceum* opposite, of the rest alternate, except those at the base of the fruit-stalks, where, in all the species that I have examined, they are opposite. ST.

POTAMOGE'TON *na'tans*. Leaves oblong egg-broad-leave-shaped, on leaf-stalks; floating. LINN.

Variety

(Variety 2 grows in air. ST.)

floating 1. Sheaths of the fruit-stalks and leaf-stalks more than half the length of the respective stalks. WITH.—Upper-leaves floating on the surface of the water. ST.

Fuchs. 651, cop. in Trag. 688.—Ger. em. 821. 1, cop. in Pet. 5.

4, and H. ox. v. 29, row 1. 1. at p. 596.—Ger. em. 675. 1.—

Park. 1254. 1. b, a branch with only leaves.—Matth. 1137.

Leaves very entire, ribbed. POLLICH. ST.—Opaque, those of the other species are pellucid. ST.—Spikes from the base of the leaves, on fruit-stalks as large as the stem. Flowers sitting, numerous. Mr. Woodward.—yellowish. Leaf-stalks for the most part longer than the leaves. WITH.

Ponds and slow rivers, common. P. July. Aug.

The leaves floating upon the surface of the water afford an agreeable shade to fish, and are the habitation and food of the *Phalæna Potamogeton*.

boggy 2. *paludosum*. Sheaths of the fruit-stalks and leaf-stalks not half the length of their respective stalks. WITH.—Stem growing in the air, ascending. ST.

When it grows in a place which is dried up in the summer, it surprisingly changes its appearance, growing upright, and resembling a small *Plantago*. LINN. lapp. p. 44. Mr. Woodward. ST.—Spike nearly 1 inch long. Blofs. (or rather cup) fleshy, green. CHIVES, Tips very large. Dust white. POINT. Summits very indistinct; brown. Fruit-stalks about twice as long as the spike. Leaves alternate, except the upper pair, which are opposite; lower ones spear-shaped, on long leaf-stalks; upper ones oval, with shorter leaf-stalks. Stem about 4 inches high. Sheaths of the leaf-stalks seem soon to decay. Flowers a month or six weeks earlier than variety 1. WITH.—Leaves 3 or 4 times less, more pointed. ST.

[Boggy ground on Birmingham Heath. WITH.—And Sutton Park, Warwickshire, in places where stagnant water has been dried up or drained off. ST.] P. May.—A. g.

perfoliate POTAMOGETON *perfoliatum*. Leaves heart-shaped, embracing the stem.—

H. dan. 196.—Dod. 582. 3, repr. in Ger. em. 822. 3, cop. in J.

B. iii. 778. 2, Pet. 5. 6, and H. ox. v. 29, row 2. 3, at p. 596.

Leaves alternate, but where a joint throws out a fruit-stalk, in pairs, ribbed. Leaf-scales none, or very short. HALL. ST. Mr. Woodward.—Leaves with from 5 to 7 principal ribs, with intermediate finer ones, ending in the point of the leaf. ST.

heart β. HUDS.—Pet. 5. 7, probably a copy of Loes. 65.

My specimens seem to evince that these varieties run into one another. ST.—Blofs. yellowish.

Rivers

Rivers and ponds, frequent. P. June.—Aug.

Goats and Cows eat it. Horses, Sheep, and Swine refuse it.

POTAMOGE'TON *lucens*. Leaves flat, spear- long-leaved
shaped, tapering down into leaf-stalks.—

Fl. dan. 195.—Pet. 5. 5.—J. B. iii. 777. 1.—Dod. 582. 2, repr.

in Ger. 822. 4.—H. ox. v. 29. 4. at p. 596.

Rivers and ponds.

P. June, July.

1. RAY.—Leaves truly spear-shaped. ST.

narrow leaved

Potamog. lucid. lapathi foliis longissimis. PLUK. amalth. 177. R. syn.

148. n. 2.

River Clyde. LIGHTF.

2. RAY. *ib.*—Leaves somewhat elliptical. Mr. WOODWARD. ST. broad-leaved

—Surface covered with a network of pellucid veins. Blossoms red-

dish. WITH.—Stem cylindrical. Leaves very entire, somewhat

waved at the edge, ribbed. POLLICH. ST.—Egg-spear-shaped,

plumtish, sitting, alternate, but those at the base of the fruit-stalks

opposite; ribs numerous, about a line between each. Leaf-scales

saw-shaped, rising from the joint at the insertion of the leaf, and

sheathing the part of the stem above. ST.

River at Tamworth. ST.

3. Leaves very taper-pointed from the mid-rib, extending a sharp-leaved
great length beyond the body of the leaf. Mr. WOODWARD.

Ger. em. 822. 4, expresses this tho' but very imperfectly. Mr. WOODW.

[R. Waveney, by Bungay, Suffolk. Mr. WOODWARD.]

POTAMOGE'TON *denfum*. Leaves egg-shaped, close-leaved
taper-pointed, opposite, crowded. Stems forked. Spike
with 4 flowers.—

J. B. iii. 777. 2, leaves far asunder and some of the fruit-stalks
from the sides of the stem.—(Clus. ii. 252. 2, repr. in Ger. em.

824. 3; cop. in Park. 1248. 3; and Pet. 5. 8, is *P. crispum*.—

Clus. has not given any fig. of the plant referred to by Linn.)

Fruit-stalk very short, from the fork of the stem. LINN.—Bent

back. Leaves towards the end of the stem tiled. Spike small. Flowers

few, sitting. HALL. Mr. WOODWARD. ST.—Leaves waved at the

edge. Mr. WOODWARD. ST.—Three-ribbed; edge very finely

serrated. WITH. ST.—Serratures, or rather minute prickles, not

visible, unless considerably magnified. Leaves, lateral ribs just

perceptible to the naked eye, and joining the middle rib at some

distance from the point, forming, as it were, an ellipsis within the

disc of the leaf. ST.

Lesser Water Caltrops. Frogs Lettuce.

Ditches and slow streams.

P. May, June.

POT A -

curled POTAMOGE'TON *crispum*. Leaves spear-shaped; alternate or opposite, waved and ferrated.—

Curt. iv. 49.—Ger. em. 824. 2, *cop. in Park.* 1248. 2, Pet. 5. 9, and J. B. iii. 778. 1.—Clus. ii. 252. 2, *repr. in Ger. em.* 824. 3; *cop. in Park.* 1248. 3, and Pet. 5. 8, as is evident from Clus. description.

Stem compressed. RAY. WITH. ST.—In which it agrees with the *compressum*, and differs from the rest. RAY. ST.—Leaves with 3 parallel ribs, connected laterally by transverse ramifications; edges parallel for the greater part of their length. HALL. ST.—Leaves alternate, but at the forks of the stem opposite. POLLICH. WITH. ST.—Ending rather obtusely, very finely ferrated. Fruit-stalks from the forks of the stem. POLLICH. ST. — Leaves oblong-spear-shaped; lateral ribs meet as they approach the point, forming a circular line parallel to the margin of the leaf, without these on each side is a still finer rib running close to the edge. Fruit-stalks generally shorter than the leaves, but sometimes more than twice as long, corresponding with Clus. fig. ST.—Bloss. white or reddish. Stems branched. Leaves fitting; semi-transparent and very crisp. WITH.

Greater water Caltrops.

Ponds and flow streams, very common.

P. May. June.

ferrated POTAMOGE'TON *ferratum*. Leaves spear-shaped, opposite, a little waved at the edges.—

J. B. 988. 4, but leaves, both description and figure, as alternate.—
(Fl. dan. 195, Dod. 582. 2, and Pet. 5. 5, is *P. lucens*.)

Is it not a variety of *P. crispum*? LINN. MR. WOODWARD.—It is at least very closely allied to it.

Leaves, upper ones opposite, lower ones sometimes alternate. HUDS.—Sheaths fringed. SCOP.—Bloss. greenish yellow, on fruit-stalks. WITH.—Wiggers complains that the generality of authors have confounded this with the *lucens*, but he seems to me only to have transposed the characters of the 2 species. ST.

Slow rivers.

P. June.

flat-stalked POTAMOGE'TON *compressum*. Leaves strap-shaped, blunt. Stem flattened.—

Fl. dan. 203.—Pet. 5. 10.—(In Ray 4. 3, the leaves are several times broader than the stem.)

Leaves sometimes alternate, sometimes opposite. LINN.—Leaves alternate, but those at the base of the fruit-stalks opposite. RAY. hist. MR. WOODWARD.—The mid-rib strong, white. MR. WOODW.—
Leaves

Leaves very entire. Leaf-scales short. POLlich.—Stem nearly as broad as the leaves. ST.—Blossoms greenish; on short spikes. WITH. Slow streams and ditches. P. June. July.

POTAMOGE'TON *pectinatum*. Leaves bristle-fennel-leaved shaped, parallel, near together, pointing 2 ways.—

Ger. em. 828. 4.—Pet. 5. 13.—Pluk. 216. 5.—(Pet. 5. 12, has strap-shaped leaves.)

Stem cylindrical. Leaves flattened. Bloss. whitish. Tips yellow. WITH.

Rivers and ponds. [River Waveney, frequent. Mr. Woodw.] P. May.—July.

POTAMOGE'TON *gramineum*. Leaves between grass-leaved strap and spear-shaped, alternate, sitting; broader than the props.—

Fl. dan. 222.—Ray 4. 3.—Pet. 5. 12?—(Pet. 5. 10, is *P. compressum*.)

The leaves at the base of the fruit-stalks opposite. Leaf-scales very numerous and large. HALL.—Fl. dan. and Ray are both referred to by Linnæus and Haller.—But Mr. Lightf. has very justly remarked the want of leaf-scales in the fig. of Ray. I suspect they will turn out to be 2 species. Ray 4. 3, is the fig. referred to in the Sp. pl. and with which my specimens correspond.—Leaf-scales much narrower than the leaves, and so as easily to escape the attention of a common artist; rather strap-shaped, bluntish, and set close, as in Ray's figure; not spear-shaped, tapering to a point, toothed, and at a considerable distance from each other, as in that of the Fl. dan.—Ribs 3; very finely serrated as the *Potamogeton alterum nostras*, &c. with long, blunt, shining leaves, very minutely notched of PLUK. amal. 177, and R. syn. 50. n. 11.—Haller describes the leaves of his as gradually diminishing, which corresponds with the fig. of the Fl. dan. ST.

Slow streams and marshy ditches.

P. July.

POTAMOGE'TON *marinum*. Leaves strap-sea shaped, alternate, distinct; the base sheathing the stem.—

Fl. dan. 186.—Vaill. 32. 5.—H. ox. v. 29. 9, at p. 596.—(Pet. 5. 13, and Pluk. 216. 5, are *P. pectinatum*.)

The props not distinct in this, as in the other species, but the leaves fixed to them. LINN.—Leaves growing from the sheaths, which are slightly forked at the extremity as in *P. pectinatum*. In stagnant salt water ditches the whole plant is shorter; the branches and leaves closer and more frequent. In running water, whether salt or fresh, it grows to a vast length, and the branches and leaves are farther

farther asunder, but in both cases preserve their parallelism. *Spike* long; with sitting flowers, growing mostly in interrupted whorls. Fl. dan. 186 more exactly resembles our fresh than salt water plants, though quoted in *Syst. Veget.* for *P. marinum*. Mr. WOODWARD.—Leaves scarcely a line broad. POLLICH. ST.—In quite fresh water it becomes the *P. pectinatum*. Mr. CROWE. Mr. WOODWARD.—What I have been accustomed to refer to the *marinum* have grown in fresh water, as those of *Pollich. and Vaill.* (par. p. 164. n. 8.) If, however, such should prove to be the *pectinatum*, Linnæus's characteristic mark of the *marinum*, of its leaves growing on leaf-sheaths, will appear to be by no means peculiar to that species.—Reichard's references to Haller in this species and the *pumillum* are transposed. ST.

Salt water ditches. [Near Yarmouth. Mr. WOODWARD.]

A. LINN. P. HUDS. July. Aug.

small POTAMOGETON *pumillum*. Leaves strap-shaped, opposite, alternately distinct, expanding at the base. Stem cylindrical.—

Vaill. 32. 4.—*Pet.* 5. 11. (Fl. dan. 186, is, without doubt, *P. marinum*.)

Leaves rather pointed, very entire. POLLICH. ST.—Alternate; but those at the base of the fruit-stalks opposite. NECK. ST.—See observation at the end of the generic character. ST.—*Spikes* very small, composed of but few flowers. HALL. Mr. WOODWARD.—*Spikes* of 6 or 8 florets; placed opposite to each other. *Fruit-stalks* about 1 inch long. SCOP.—*Leaves* rather longer than the joints of the stem; *upper* ones opposite; *lower* ones alternate. *Fruit-stalks* terminating, sheathed at the base by 2 concave, skinny, spear-shaped scales. *Spikes* terminating, nearly globular, about 3 flowers in each. *Summits* a little hollow at the top. WITH.

Ponds in clayey soil. [About Tamworth, Warwicksh. WITH.]

A. LINN. P. HUDS. June.—Aug.

187. R U P' P I A. Taffelgrafs.

EMPAL. *Sheath*, hardly any but what is formed by the base of the leaves. *Sheathed fruit-stalk* awl-shaped; undivided; straight; bending when the fruit ripens; beset with flowers which point in 2 opposite directions. *Cup* none.

BLOSS. None.

CHIVES. *Threads* none. *Tips* 4; fitting; equal; somewhat roundish; rather double.

POINT. *Seed-buds* 4 or 5; somewhat egg-shaped; approaching. *Shaft* none. *Summits* blunt.

S. VESS. None. The seeds are supported upon little foot-stalks, thread-shaped, and as long as the fruit.

SEEDS. 4 or 5; egg-shaped; oblique; terminated by a flat circular summit.

ESS. CHAR. *Bloss.* o. *Empal.* o. *Seeds* 4, on little foot-stalks.

R U P' P I A. *maritima*.

sea

Fl. dan. 364.—*Mich.* 35.—*Fluk.* 248. 4, cop. in *Pet.* 6. 1.—*Lightf.*

3. 1.—*Lob. obs.* 653. 1.—*Fructificat.* *Ray* 6. 1. at p. 168. Mr.

WOODWARD.

Stem undivided. *Leaves* alternate. *Flowers* on fruit-stalks. *Bot. Arr. ed.* I.

Taffel Pondweed.

Salt water ditches; [near Yarmouth. Mr. WOODWARD.]

A. LINN. P. HUDS. July. Aug.

Class V.

P E N T A N D R I A.

V. C H I V E S.

THE first division of the first ORDER of this class, includes the plants with ROUGH LEAVES; which admit of the following natural character:

EMPAL. Cup 1 leaf; with 5 clefts, or 5 divisions: permanent.

BLOSS. 1 petal; with 5 clefts.

CHIVES. Threads 5, fixed to the tube of the blossom.

POINT. Seed-buds 4. Shaft single; thread-shaped. Summit blunt.

S. VESS. None.

SEEDS. 4; inclosed by the cup.

MARTYN *Cat. Cant.* 26.

Obs. Leaves rough and hairy; alternate, or scattered; without leaf-stalks. Spikes *before the flowers open, rolled back spirally*. Virtues *slightly astringent, and sometimes narcotic*. MARTYN, *ib.* But LINN. describes them as *mucilaginous and esculent*. Phil. bot. 340. As there is no seed-vessel, the cup does not fall off, but remains after the blossom decays, and contains the seeds.

In the second division of this order, those plants which bear berries and have a blossom composed of one petal, are generally poisonous.

The 3d division of the SECOND ORDER consists of plants whose flowers are disposed in RUNDLES; or the *Umbelliferous* plants of many authors. They admit of the following natural character:

Rundle composed of several *Rundlets*.

Fence, general, inclosing the whole rundle, or *partial*, inclosing only the rundlets.

EMPAL.

EMPAL. *Cup* hardly discernible.

BLOSS. 5 petals; standing on the seed-bud; shedding.

Petals generally heart-shaped, and bent inwards.

CHIVES. *Threads* 5; simple; hair-like. *Tips* simple, or roundish.

POINT. *Seed-bud* beneath. *Shafts* 2, generally distant.

Summits simple.

S. VESS. None.

SEEDS. 2; scored; convex on one side, flat on the other.

MARTYN *Cat. Cant.*

OBS. Stems hollow and pithy. Leaves alternate:

In dry situations these plants are aromatic and carminative: in moist ones, often poisonous. MARTYN. *ib.* The greatest virtues are contained in the seeds and roots. Many of them are eaten at our tables, as the roots of CARROT and PARSNEP, and the leaves of CELERY. The seeds of CORIANDER and CARAWAY are used in confectionary.

Class V.

PENTANDRIA.

V. CHIVES.

Order I.

MONOGYNIA; I. POINTAL.

- * Flowers of 1 petal; beneath. Seeds 4; naked. ROUGH LEAVES.
203. EC'HIMUM. - - Bloss. mouth naked; irregular; bell-shaped.
196. PULMONA'RIA. - Bloss. mouth naked; funnel-shaped. Cup prism-shaped.
193. LITHOSPER'MUM. Bloss. mouth naked; funnel-shaped. Cup with 5 divisions.
197. SYM'PHYTUM. - Bloss. mouth toothed; bellying.
200. BORA'GO. - - Bloss. mouth toothed; wheel-shaped.
202. LYCOP'SIS. - - Bloss. mouth covered; funnel-shaped. Tube crooked!
201. ASPERU'GO. - - Bloss. mouth covered; funnel-shaped. Fruit compressed,
195. CYNOGLOS'SUM. Bloss. mouth covered; funnel-shaped. Seeds depressed, fixed by the side.
194. ANCHU'SA. - - Bloss. mouth covered; funnel-shaped. Tube prism-shaped at the base.
192. MYOSO'TIS. - - Bloss. mouth covered; falver-shaped. Segments notched.

** Flowers of 1 petal; beneath. Seeds in a vessel.

220. ANAGAL'IS. - - Capsule 1-celled; cut round. Bloss. wheel-shaped. Summit a knob.
219. LYSIMACH'IA. - Caps. of 1 cell, and 10 valves. Bloss. wheel-shaped. Summit blunt.
210. PRIMULA.

210. PRIMULA. - - *Capsule* 1-celled. *Bloss.* funnel-shaped: mouth open. *Summit* globular.
216. HOTTONIA. - - *Capsl.* 1-celled. *Bloss.* the tube beneath the chives! *Summit* globular.
215. MENYANTHES. - *Capsl.* 1-celled. *Blossom* shaggy. *Summit* cloven.
231. CONVULVULUS. *Capsl.* 2-celled; 2-seeded. *Bloss.* bell-shaped. *Summit* cloven.
263. DATURA. - - *Capsl.* 2-celled; 4-valved! *Bloss.* funnel-shaped. *Cup* deciduous.
264. HYOSCYAMUS. - *Capsl.* 2-celled; covered with a lid! *Bloss.* funnel-shaped. *Summit* a knob.
262. VERBASCUM. - - *Capsl.* 2-celled. *Bloss.* wheel-shaped. *Summit* blunt. *Chives* declining.
275. CHIRONIA. - - *Capsl.* 2-celled. *Bloss.* jug-shaped. *Tips* spirally twisted after shedding their dust.
233. POLEMONIUM. - *Capsl.* 3-celled. *Bloss.* with 5 divisions. *Chives* on the valves of the tube.
225. AZALEA. - - *Capsl.* 5-celled. *Bloss.* bell-shaped. *Summit* blunt.
322. VINCA. - - - *S. Vess.* 2 upright little bags. *Bloss.* falver-shaped. *Seeds* not winged.
268. SOLANUM. - - *Berry* 2-celled. *Tips* with 2 holes in each.
266. ATROPA. - - *Berry* 2-celled. *Chives* distant; bowed inwards.

† Gentiana Centaurium.

*** Flowers of 1 petal; superior.

232. SAMOLUS. - - *Capsl.* 1-celled; and 5 valves at the top. *Bloss.* falver-shaped. *Summit* a knob.
236. PHYTEUMA. - - *Capsl.* 2 or 3-celled, perforated. *Bloss.* with 5 divisions. *Summit* with 2 or 3 clefts.

234. CAMPAN'ULA. - - *Caps.* 3 or 5-celled; perforated.
Bloss. bell-shaped. *Summit* 3-
 clefted.

250. LONICE'RA. - - *Berry* 2-celled, roundish. *Bloss.*
 unequal. *Summit* a knob.

† Viburnum Lantana. Lobelia. Rubia peregrina.

**** Flowers of 5 petals; beneath.

284. RHAM'NUS. - - *Berry* 3-celled; globular. *Cup*
 tubular, resembling a blossom;
 with 5 converging scales at the
 mouth.

291. EUON'YMUS. - - *Berry* resembling a capsule, lobed.
Cup expanding. *Seed* like a
 berry; covered with an outer
 coat.

† Viola Impatiens.

***** Flowers of 5 petals; superior.

301. RI'BES. - - - *Berry* many-seeded. *Petals* stand-
 ing on the cup. *Shaft* cloven.

304. HED'ERA. - - *Berry* 5-seeded. *Cup* binding
 round the fruit. *Summit* simple.

† Jasione.

***** Flowers imperfect; beneath.

313. ILLEC'EBRUM. - *Caps.* 1-seeded; 5-valved. *Cup*
 simple; rough and inelegant.

314. GLAU'X. - - - *Caps.* 5-seeded; and 5-valved,
Cup simple; bell-shaped; rough
 and inelegant.

† Polygonum amphibium. Atriplex. Salsola. Chenopodium
 maritimum.

***** Flowers imperfect; superior.

315. THE'SIUM. - - *Seed* 1, crowned. *Cup* bearing
 the chives.

Order

Order II.

DIGYNIA; II. POINTALS.

* Flowers of 1 petal; beneath.

51. SWER'TIA. - - Caps. 1-celled; 2 valved. Bloss.
wheel-shaped, with 5 honey-
cup pores.
52. GENTIA'NA. - - Caps. 1-celled, 2-valved. Bloss.
tubular; variously shaped.
- † Cuscuta.

** Flowers of 5 petals; beneath.

† Staphylea pinnata.

*** Flowers imperfect.

339. SAL'SOLA. - - Seed 1; resembling a snail-shell,
covered. Cup 5 leaves.
337. CHENOPO'DIUM. Seed 1; round and flat. Cup 5 con-
cave leaves.
338. BE'TA. - - - Seed 1; kidney-shaped. Cup 5
leaves; with the seed at the
bottom.
336. HERNIA'RIA. - - Seed 1; egg-shaped; covered.
Cup with 5 divisions. Threads
5 with, and 5 without tips.
345. UL'MUS. - - - Berry not juicy; compressed. Cup
1 leaf; soon shrivelling.
- † Scleranthus annuus, perennis. Cuscuta europæa.

**** Flowers of 5 petals; superior—and 2 seeds. In RUNDLES.

A. FENCE both general and partial.

354. ERYNG'IUM. - Florets in globular heads. Recep-
tacle chaffy.
355. HYDROGOT'YLE. Florets in a sort of rundle; fer-
tile. Seeds compressed.
356. SANIC'ULA. - - Florets in a sort of rundle; those
in the centre barren. Seeds
covered with sharp points.

375. HERACLE'UM. - *Florets unequal; almost all fertile. Fence deciduous. Seeds membranaceous.*
382. OENAN'THE. - - *Florets unequal; those in the circumference barren. Fence simple. Seeds crowned; sitting.*
359. ECHINOPH'ORA. *Florets unequal; several barren. Fence simple. Seeds sitting.*
362. CAU'CALIS. - - *Florets unequal; those in the centre barren. Fence simple. Seeds covered with sharp points.*
364. DAU'CUS. - - *Florets unequal; those in the centre barren. Fence winged. Seeds covered with prickles.*
361. TORDYL'IUM. - - *Florets unequal; all fertile. Fence simple. Seeds with a scolloped border.*
370. PEUCED'ANUM. *Florets equal; those in the centre barren. Fence simple. Seeds scored; flattened.*
367. CO'NIUM. - - *Florets equal; all fertile. Petals heart-shaped. Partial fence extending but $\frac{1}{2}$ way round. Seeds bellying; ribbed and furrowed.*
366. BU'NIUM. - - *Florets equal; all fertile. Petals heart-shaped. Partial fence bristle-shaped.*
369. ATHAMAN'TA. - *Florets equal; all fertile. Petals heart-shaped. Seeds convex, scored.*
358. BUPLEU'RUM. - *Florets equal; all fertile. Petals rolled inwards. (The undivided leaves of the partial fence often resemble petals.)*
378. SI'UM. - - - *Florets equal; all fertile. Petals heart-shaped. Seeds nearly egg-shaped; scored.*
368. SELI'NUM. - - *Florets equal; all fertile. Petals heart-shaped. Seeds flattened; scored.*
371. CRITH'MUM. - - *Florets equal; all fertile. Petals rather flat. Fence horizontal.*
376. LIGUS'TICUM. - *Florets equal; all fertile. Petals rolled inwards. Fence membranaceous.*

377. ANGEL'ICA.

377. ANGEL'ICA. - - Florets equal; all fertile. *Petals*
rather flat. *Rundlets* globular.
379. SI'SON. - - - Florets equal; all fertile. *Petals*
rather flat. *Rundlets* of few
florets.

† Coriandrum. Apium graveolens.

B. FENCE only partial.

385. ÆTHU'SA. - - Florets rather unequal; all fertile.
Partial fence extending but half
way round.
386. CORIAN'DRUM. - Florets unequal; some of them
barren. *Fruit* nearly globular.
387. SCAN'DIX. - - Florets unequal; those in the
centre barren. *Fruit* oblong.
388. CHÆROPHYL'LUM Florets unequal; those in the
centre generally barren. *Fruit*
nearly globular. (*Partial fence*
5 leaves.)
383. PHELLAN'DRIUM. Florets nearly equal; all fertile.
Fruit crowned.
389. IMPERATO'RIA. - Florets nearly equal; all fertile.
Rundle expanded and flat.
384. CIGU'TA. - - - Florets nearly equal; all fertile.
Petals rather flat.

† Bupleurum rotundifolium. Heracleum Sphondylium.
Oenanthe crocata. Caucalis leptophylla. Angelica sylvestris.
Bunium Bulbocastanum.

C. FENCE 0; neither general nor partial.

393. SMYR'NIUM. - Florets equal; those in the centre
barren. *Seeds* kidney-shaped;
angular.
395. CA'RUM. - - Florets nearly equal; those in
the centre barren. *Seeds* bel-
lying; scored.
392. PASTINA'CA. - - Florets nearly equal; all fertile.
Seeds depressed and flat.
394. ANE'THUM. - - Florets nearly equal; all fertile.
Seeds bordered; scored.

398. ÆGOPO'DIUM.

398. *ÆGOPO'DIUM*. - *Florets* nearly equal; all fertile.
Seeds bellying; scored. *Petals*
heart-shaped.
397. *A'PIUM*. - - - *Florets* equal; almost all fertile.
Seeds minute; scored. *Petals*
bent inwards.
369. *PIMPINEL'LA*. - *Florets* nearly equal; all fertile.
Petals heart-shaped. *Rundles*
before flowering, nodding.

Order III.

TRIGYNIA; III. POINTALS.

* Blossoms *superior*.

400. *VIBUR'NUM*. - - *Bloss.* 5-clefted. *Berry* 1-seeded.
402. *SAMBU'CUS*. - - *Bloss.* 5-clefted. *Berry* 3-seeded.

** Blossoms *beneath*.

404. *STAPHYLE'A*. - *Bloss.* 5-petaled. *Caps.* with 2 or
3 clefts; inflated.
411. *ALSI'NE*. - - - *Bloss.* 5-petals. *Caps.* 1-celled.
Cup 5-leaved. *Petals* cloven.
409. *CORRIGI'OLA*. - *Bloss.* 5-petaled. *Seed* 3-cornered.
Cup with 5 divisions.

† *Montia fontana*. *Arenaria rubra*; *marina*. *Salsola fruticosa*.
Holosteum umbellatum. *Chenopodium maritimum*.

Order IV.

TETRAGYNIA; IV. POINTALS.

415. *PARNAS'SIA*. - - *Bloss.* 5-petaled. *Caps.* 4-valved.
Honeycups 5; fringed with
glands.

Order V.

PENTAGYNIA; V. POINTALS.

419. *LI'NUM*. - - - *Bloss.* 5-petaled. *Caps.* 10-celled;
2-seeded.

421. *DRO'SERA*.

21. DRO'SERA. - - *Bloss.* 5-petaled. *Caps.* 1-celled;
opening at the top.
25. SIBBAL'DIA. - - *Bloss.* 5-petaled. *Seeds* 5. Cup
10-clefted.
18. STAT'ICE. - - *Bloss.* with 5 divisions. *Seed* 1;
enclosed in the funnel-shaped
cup.

† *Cerastium semidecandrium*. *Spergula pentandria*. *Geranium*.
ragina procumbens.

Order VI.

POLYGYNIA; MANY POINTALS.

26. MYOSU'RUS. - - Cup 5-leaved. *Honeycups* 5;
tongue-shaped. *Seeds* numerous.
- † *Ranunculus hederaceus*.

192. MYOSO'TIS. Scorpiongrafs.

EMPAL. *Cup* with 5 shallow clefts; oblong; upright; sharp; permanent.

BLOSS. 1 petal; salver-shaped. *Tube* cylindrical; short. *Border* flat; with 5 shallow clefts. *Segments* blunt; notched at the end. *Mouth* closed with 5 convex, prominent, approaching valves.

CHIVES. *Threads* 5, very short; fixed to the neck of the tube. *Tips* very small; covered.

POINT. *Seed-buds* 4. *Shaft* thread-shaped; as long as the tube of the blossom. *Summit* blunt.

S. VESS. None. The *Cup* enlarged and upright contains the seeds within it.

SEEDS. 4; egg-shaped; tapering; smooth.

ESS. CHAR. *Bloss.* salver-shaped, with 5 clefts, nicked; *Mouth* closed with a vaulted roof.

mouse-ear MYOSO'TIS *scorpioides*. Seeds smooth. Points of the leaves callous.

Blossoms in a long spirally twisted spike. Apr.—Aug.

When it grows in the water, and its taste and smell are thereby rendered less observable, Sheep will sometimes eat it, but it is generally fatal to them.—Cows, Horses, Swine, and Goats refuse it.

field α . *arvensis*. Leaves hairy.

Fl. dan. 583.—*Dod.* 72, repr. in *Lob. obs.* 245. 4, *Ger. em.* 337. 4; and cop. in *Park.* 691. 7, and *H. ox.* xi. 31. row 2. 1.—*J. B.* iii. 589. 2.

Dry meadows, corn fields, and gardens.

Seeds shining. SCOP. WITH.—*Stem-leaves* egg-spear-shaped. *Empal.* divided more than half way down. *Bloss.* some of the segments very entire; *valves* bright yellow, convex above, and hollow underneath, the tips being placed in the hollow. *Summits* 2, globular, very minute. *Seeds* compressed. WITH.

yellow β . Blossoms yellow. RAY. HUDS. ST.

flowered In very dry situations it has sometimes blue and yellow flowers on the same plant. Mr. WOODWARD.

Walls, dry pastures, and sandy places. A.

broad-leaved γ . HUDS. Leaves broad, hairy. Blossoms larger than α and flowers earlier.

In woods. A. RAY.

Ray 9. 2. at p. 128.—*Barr.* 404?

\delta. *palustris*.

β. palustris. Leaves smooth.

water

Curt. iii. 28.—*Ger. em.* 337. 3, *cop. in Park.* Cg1. 8, and *II. ox.* xi. 31. row 2. 4.—(*Barr.* 404, from its place of growth, habit, and hairy leaves seems rather to be *γ.*)

Ditches, springs, and rivulets. P.*

193. LITHOSPER'MUM. Gromwell.

EMPAL. Cup with 5 divisions; oblong; straight; pointed; permanent. *Segments* awl-shaped; keeled.

BLOSS. 1 petal, funnel-shaped; as long as the empalement. *Tube* cylindrical. *Border* with 5 shallow clefts; blunt, upright. *Mouth* open, naked.

CHIVES. *Threads* 5, very short. *Tips* oblong, in the mouth of the blossom.

POINT. *Seed-buds* 4. *Shaft* thread-shaped; as long as the tube of the blossom. *Summit* blunt; cloven.

S. VESS. None. The seeds are contained in the bottom of the open cup, which is longer than the seeds.

SEEDS. 4, egg-shaped; tapering; hard; smooth.

ESS. CHAR. *Bloss.* funnel-shaped, open and naked at the mouth. *Empal.* with 5 divisions.

LITHOSPER'MUM officinale. Seeds smooth. common
Blossoms hardly longer than the cup. Leaves spear-shaped.

Ludw. 147.—*Dod.* 83. 2, repr. in *Ger. em.* 609. 2, and *cop. in Park.* 432. 1, and *H. ox.* xi. 31. row 1. 1.—*Ger.* 486. 2.—*Mauh.* 913.—*Fuchf.* 489, *cop. in Trag.* 536, and *J. B.* iii. 590. 2.—(*Blackw.* is *L. arvense.*)

Blossoms white. *Seeds* as hard as bone. LINN.

Gromill. Graymill.

Dry gravelly soil.

P. May. June.

Grew says the seeds have so much earth in their composition that they effervesce with acids, but Linnæus contradicts this assertion.

Sheep and Goats eat it.—Cows and Horses refuse it.

LITHOSPER'MUM arvense. Seeds wrinkled. corn
Blossoms hardly longer than the cups.

Riv.

* This being perennial, while the rest are annuals, has led Haller to make it a distinct species, and yet variety *β.* which Ray asserts to be annual, he has arranged as a variety of this. The varieties of this species in the hands of the cultivating botanist, might form the subject of a course of very interesting experiments. ST.

Riv. mon. 9. 1.—*Fl. dan.* 456.—*Blackw.* 436.—*H. ox.* xi. 28. 7.
—*Ger. em.* 610. 4, *cop. in Park.* 432. 6.—*Matth.* 917, *seeds,*
I suspect, scilicet.

Stems very rough. *Leaves* betwixt strap and spear-shaped, hairy.
Empal. segments beset with long white hairs. *Bloss.* hairy on the
outside; *tube* with ten glandular teeth at the base on the inside.
Chives very short, inserted near the base of the tube. *Shaft* not half
as long as the tube. *Seeds* rather covered with tubercles than
wrinkled. *WITH.*—*Bloss.* white, on short fruit-stalks. *Roots* reddish.

Bastard Alkanet. Bastard Gromill. Salsfern. Painting Root.

Corn fields, common.

A. May. June.

The girls in the North of Europe paint their faces with the juice
of the root upon days of festivity.—The bark of the root tinges
wax and oil of a beautiful red, similar to that which is obtained
from the root of the foreign Alkanet that is kept in the shops.

Sheep and Goats eat it. Cows are not fond of it. Horses and
Swine refuse it.

creeping LITHOSPERMUM *purpu'ro-cæru'leum.* Seeds
smooth. Blossom several times longer than the cup.—

Jacq. fl. 14.—*Pet.* 29. 6.—*Clus.* ii. 163. 2, *repr. in Dod.* 83. 1,
Lob. obs. 245. 1, *Ger. em.* 609. 1, *and cop. in Park.* 431, *and*
H. ox. xi. 31. 2.—*Pluk.* 76. 2.—*Ger.* 486. 1.—*J. B.* iii. 692.
1.—(*Matth.* 917, *seems rather L. arvensc.*—*H. ox. ib.* 5, *a dif-*
ferent plant.)

The barren stems creeping and sending forth roots. Flowering stems
upright. Blossoms purple. LINN.

Mountainous and woody pastures.

P. June.

194. ANCHU'SA. Alkanet.

EMPAL. *Cup* with 5 divisions; oblong; cylindrical; pointed; sharp; permanent.

BLOSS. 1 petal; funnel-shaped. *Tube* cylindrical; as long as the empalement. *Border* with 5 shallow clefts; blunt; a little expanding. *Mouth* closed by 5 convex, prominent, oblong, approaching valves.

CHIVES. *Threads* 5, very short; fixed to the mouth of the bloss. *Tips* oblong; fixed sideways; covered by the valves of the tube.

POINT. *Seed-buds* 4. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; notched.

V. **VESS.** None. The *Cup* growing larger and upright incloses the seeds.

SEEDS. 4; rather long; blunt; bulging.

ESS. CHAR. *Bloss.* funnel-shaped, the mouth closed by a vaulted roof. *Seeds* hollowed out at the base.

OBS. When the blossom is fully expanded it is nearly salver-shaped.

ANCHU'SA *sempervirens*. Fruit-stalks in heads with *evergreen* leaves to each head. **LINN.**——Or in leafy bunches in pairs. Leaves egg-shaped. **ST.***

Munt. 117.—*H. ox.* xi. 26. 2.—*Lob. adv.* 247, repr. in *Ger. em.* 797. 3, heads expanded as is sometimes the case into spikes in pairs.—*Ger.* 653. 3, flowers on long naked fruit-stalks.

Stems from the sides of the crown of the root; upright, rough with hair. *Leaves* egg-strap-shaped, on leaf-stalks; remote; spotted with white. *Fruit-stalks* rising from the base of the leaves, bearing several flowers. *Floral-leaves* opposite, fitting, spear-egg-shaped. *Bloss.* blue; tube short. **LINN.**—*Leaves* not spotted with white. *Empal.* set thick with long white bristly hairs; segments rather longer than the tube of the blossom. *Bloss. tube* with four corners at the base. *Threads* inserted about the middle of the tube. *Tips* dark purple. *Summit* scored across. *Seed-buds* embedded in a hollow glandular receptacle, 1 or 2 generally abortive. *Seeds* rough, of a bony hardness. **WITH.**

Road sides and amongst rubbish. [Haddiscoe, Suffolk, Mr. **WOODWARD**; near Norwich, Mr. **PITCHFORD**; near Birmingham

* —Vel racemosis, racemis foliatis conjugatis, foliis ovatis. **ST.**

Both the root and leaves have been suspected to possess narcotic properties, but some will not admit the fact. It is discarded from the present practice; but Mr. Ray says that Dr. Hulse used a decoction of the roots inwardly, and cataplasms of them outwardly in strumous and scrophulous cases.—Its scent is very disagreeable, and very much resembles that of mice. Mr. WALDRON HILL. ST.

Goats eat it. Cows, Horses, Sheep, and Swine refuse it
It furnishes food to the *Phalæna Domina*.

γ. LINN. HUDS.

Park. 512. 5.

green-leaved

Stem with a slight hairiness. Leaves not hoary, but of a dark green; smooth above. Flowers smaller, has not the hoariness, and is entirely destitute of the strong scent of the common *Cynoglossum*. BAUH. prodr.—Leaves rougher. POLLICH. ST.

[Shady lanes about Worcester. Mr. PITTS in R. syn. ST.—Near the 3d mile stone on the road from Worcester to Pershore. NASH.]

196. PULMONA'RIA. Lungwort.

EMPAL. Cup 1 leaf; with 5 teeth; a 5-sided prism; permanent.

BLOSS. 1 petal; funnel-shaped. Tube cylindrical; as long as the empalement. Border with 5 shallow clefts; blunt; not quite upright. Mouth open.

CHIVES. Threads 5; very short; in the mouth of the tube. Tips upright; approaching.

POINT. Seed-buds 4. Shaft thread-shaped; shorter than the empalement. Summit blunt; notched at the end.

SESS. VESS. None. The Empalement unchanged contains the seeds in its base.

SEEDS. 4; roundish; blunt.

ESS. CHAR. Bloss. funnel-shaped. Mouth open. Empal. a 5-sided prism.

PULMONA'RIA *officinalis*. Empal. as long as the broad-leaved tube of the blossom. Root-leaves egg-heart-shaped; rough.—

Ludw. 45.—Fl. dan. 482.—Blackw. 376, blossoms ill-coloured.—

Ger. 663. 4, and 662. 1.—Chuf. ii. 199. 1, repr. in Dod. 135.

1, Lob. obs. 317. 1, and Ger. em. 808. 1; and cop. in H. ox.

xi. 29. 8.—Walc.—Park. par. 251. 1.—J. B. iii. 595.—Matth.

1040.—(H. ox. ib. 9, and Pluk. 227. 4, are good representations, but of a variety different from the common.)

Blossoms purple when newly expanded, but afterwards blue. Stems rough. Tube of the blossom white; mouth hairy.

Spotted Lungwort. Cowslips of Jerusalem.

Woods.

P. May.

When burnt it affords a larger quantity of ashes than almost any other vegetable; often 1-7th of its weight.

Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it.—The *Chrysomela nemorum* feeds upon it.

This species is given on the authority of Mr. Hudson, who refers to *Fl. dan.* 482, the *P. officinalis*, and also to *Ger. em.* 308. 2, *R. syn.* 226. which is the *P. angustifolia*, and gives no place of growth except one transcribed from Ray.—The following is given conformable to the authority of Ray.

narrowleaved PULMONA'RIA *angustifolia*. Root-leaves spear-shaped.—

Fl. dan. 483.—*Ger.* 662. 2.—*Clus.* ii. 170. 1, *rep. in Ger. em.*

308. 2, and *cop. in H. ox.* xi. 29. row 2. 5.—*Park. par.* 251.

2.—(*H. ox. ib.* 10, and *J. B.* iii. 596, is a different plant.)

Bugloss-Cowslips. Long-leaved Sage of Jerusalem.

“Mr. Goodyer found it in a wood by Holbury House in the “New Forest, Hampshire.” *JOHNSON in Ger. em.* p. 809.—*R. syn.* 226.—The authority of Mr. Goodyer is cited also by Parkinson, but who supposes him to have found the *P. officinalis*. ST.

sea PULMONA'RIA *maritima*. Empalement but half as long as the tube of the blossom. Leaves egg-shaped. Stem branched; trailing.—

Lightf. 7.—*Dill. elth.* 65.—*Fl. den.* 25.—*J. B.* 72. 3, *cop. in H. ox.* xi. 28. row 2. 12.—*Park.* 700. 1.—*Sibth.* 12. 4. *bad.*

MR. WOODWARD.

Leaves upper surface sprinkled with white prominent dots. ST.—Bloss. purple.

Sea Bugloss.

On sandy shores.

1. July.

197. SYM'PHYTUM. Comfrey.

EMPAL. *Cup* with 5 divisions and 5 corners; upright; sharp; permanent.

BLOSS. 1 petal; bell-shaped. *Tube* very short. *Border* tubular; distended; thicker than the tube; edge with 5 blunt reflected teeth. *Mouth of the Tube* furnished with 5 awl-shaped valves, shorter than the border, approaching so as to form a cone.

CHIVES. *Threads* 5; awl-shaped; standing alternately with the valves in the mouth of the tube. *Tips* upright; sharp; covered.

POINT. *Seed-buds* 4. *Shaft* thread-shaped, as long as the blossom. *Summit* simple.

3. VESS. None. The *Cup* grows larger and wider.

SEEDS. 4; bulging, tapering; approaching at the points.

ESS. CHAR. *Bloss.* the border betwixt tubular and bulging; the mouth closed with awl-shaped rays.

SYM'PHYTUM officina'le. Leaves egg-spear-shaped, common running along the stem.—

Ludw. 80, but from the ink having taken only the edge of the stalk has very much of the delicate appearance of *S. tuberosum*.—*Curt.* iv. 28.—*Fl. dan.* 664.—*Blackw.* 252.—*Matth.* 961, cop. in *Dod.* 134. 1, repr. in *Lob. obs.* 315. 1, *Ger. em.* 806. 1, and cop. in *Park.* 523. 1.—*Ger.* 660. 1 and 2.—*H. ox.* xi. 29. row. 1. 1.—*Pet.* 29. 5.—*Fuchf.* 695, cop. in *Trag.* 240, and *J. B.* iii. 593.

Root nearly spindle-shaped, single, or generally several, a foot long, as thick as one's finger, round, not knotty, as in the *S. tuberosum*. *Upper leaves* sometimes opposite. Begins to flower in June, continuing the greater part of the summer. *Road sides*, where the rubbish of gardens or ploughed fields has been laid, and the adjoining pastures. *JACQ.*—*Bloss.* valves of the mouth not toothed at the base. *SCOP.*—But in my specimens they are generally toothed down to the base. *ST.*—Blossoms yellowish white.

β. Blossoms purple. *LINN.*—Or pink colour.. *St.*

purple

Empal. corners not very evident. *Bloss.* tube as long as the em-
alement; egg-shaped above. *Valves* spear-shaped, flat, cover-
ing the tips; edge studded with small shining glands. *WITH.*

Banks of rivers and wet ditches.

P. May.

The particles of the dust appear in the microscope like two glo-
ules united together. The leaves give a grateful flavour to cakes.

and panada, and the young stems and leaves are excellent when boiled. The roots are glutinous and mucilaginous, and a decoction of them is used by the dyers to extract the colouring matter of gum lac.

Cows and Sheep eat it. Horses, Goats, and Swine refuse it.
LINN.—A Horse eat it. ST.

tuberous SYMPHYTUM *tuberosum*. Leaves running half
rooted way down; the uppermost opposite.—

Jacq. fl. 225.—Obs. 63.—Clus. ii. 166. 2, repr. in Ger. em. 806. 3, and cop. in H. ox. xi. 29. row 1. 3.—J. B. iii. 594.—(Clus. ib. 1, repr. in Dod. 134. 2, Lob. obs. 315. 2, and cop. in Park. 523. 3, and H. ox. ib. 2, seems to me to resemble more *Hyoscyamus Scopolia* than a *Symphytum*.)

Possibly a variety of the *S. officinale*. Root white, and not black on the outside as that of the preceding. LINN.—Root tuberous, oblong, branched or simple, with slender lateral fibres. Leaves not so rough with hair; edges often running down almost as far as in the *S. officinalis*; upper sometimes alternate. Habit more delicate; not so tall; all the parts in less profusion. Bloss. yellowish white. Begins to blossom in May, and out of flower by the end of June.—Shady woods and brakes. JACQ.—Head of the root tuberous. Bloss. palish yellow; valves of the mouth finely toothed throughout. SCOP.—But so are those of the *S. officinale*. ST.

200. BORA'GO. Borage.

EMPAL. Cup with 5 divisions; permanent.

BLOSS. 1 petal; wheel-shaped; as long as the empalement.

Tube shorter than the cup. Border with 5 divisions; wheel-shaped; flat. Mouth crowned with 5 prominencies, which are blunt and notched at the end.

CHIVES. Threads 5; awl-shaped; approaching. Tips oblong; approaching; fixed to the inner side, and about the middle of the thread.

POINT. Seed-buds 4. Shaft thread-shaped; longer than the chives. Summit simple.

S. VESS. None. The Cup grows larger and bladder-shaped.

SEEDS. 4; roundish; wrinkled; keeled outwardly towards the point; globular at the base: lying lengthways in a hollow of the receptacle.

ESS. CHAR. Bloss. wheel-shaped; mouth closed with rays.

BORA'GO

BORA'GO *officina'lis*. All the leaves alternate. Cups common expanding.—

Ludw. 3.—Fuchf. 142, cop. in Dod. 627. 1, which repr. in Ger. em. 797. 2; and cop. again in J. B. iii. 574, which repr. at 588. 1.—Blackw. 36.—Math. 1186.—Trag. 237.—Ger. 653. 2 and 1.—H. ox. xi. 26. 1, on the left.—Lob. obs. 309. 2, repr. in Ger. em. 797. 1.

Fruit-stalks terminating; supporting several flowers. Came originally from Aleppo; but now found in many parts of Europe. Bloss. blue, white, or flesh-coloured. LINN.—Whole plant rough with numerous white prickly hairs. Bloss. segments spear-shaped; the prominencies, one rising from the base of each segment, brownish, half egg-shaped. Threads, the portion above the insertion of the tips cylindrical, dark blue, that below the insertion thick, brown and glandular. Tips black. Shaft rather shorter than the chives. Leaves egg-shaped, embracing the stem. WITH.

Walls and amongst rubbish.

P. June.—Aug.

By the experiments of Mr. Marggraff, *Mem. de Berlin*. 1747. p. 72, it appears that the juice affords a true nitre.—It is now seldom used inwardly but as an ingredient in cool tankards for summer drinking, though the young and tender leaves are good in fallads, or as a pot-herb.—It affords nourishment to the *Phalæna Gamma*. LINN.—A Horse eat it. ST.

201. ASPERU'GO. Catchweed.

EMPAL. Cup of 1 leaf; permanent; with 5 upright, unequal segments.

BLOSS. 1 petal; funnel-shaped. Tube cylindrical; very short. Border with 5 shallow clefts; blunt; small. Mouth closed by 5 convex, projecting, approaching valves.

CHIVES. Threads 5, very short; fixed in the mouth of the tube. Tips rather oblong; covered.

POINT. Seed-buds 4, compressed. Shaft thread-shaped; short. Summit blunt.

S. VESS. None. The Cup very large; upright; compressed; closes upon and contains the seeds.

SEEDS. 4; oblong; compressed; in distant pairs.

ESS. CHAR. Empal. of the fruit compressed; its sides flat, parallel, indented. (But in A. ægypt. the empal. of the fruit is bulging. ST.)

trailing ASPERU'GO *procumbens*. Empalement of the fruit compressed.—

Fl. dan. 552.—*H. ox.* xi. 26. 13.—*Ger.* 963.—*Dod.* 356, *repr.*
in *Ger. em.* 1122. 2.—*Lob. obj.* 466. 2.—*Garid.* 9.—*J. B.* iii.
600. 2, *repr.* in 601. 2.—(590. 1, a different plant.)

Bloss. very small, deep blue. HALL. Mr. WOODW.—*Leaves* mostly by threes, all pointing upwards. Mr. WOODWARD.—*Stem* angular, sides unequal; angles beset with strong hooked prickles pointing backwards. *Leaves* spear-oblong, beset with hairs pointing towards the end; from 1 to 4 to a set of flowers, from the same side of the stem with the flowers. *Empal. of the fruit* assumes an appearance very different from that of the flower, as if composed of 2 distinct valves, though in reality of 1 leaf; *teeth* tapering to a point, the middlemost in one of the valves longer than the other teeth, but in the other valve shorter, and cloven at the end. *Bloss.* scarcely a line broad. *Fruit* on short fruit-stalks, bowed down in a direction opposite to that of the leaves. ST.

Great Goose-grass. German Madwort.

In roads and amongst rubbish.

A. April. May.

Horses, Goats, Sheep, and Swine eat it. Cows are not fond of it.

202. LYCOP'SIS. Bugloss.

EMPAL. *Cup* with 5 divisions; permanent. *Segments* oblong; sharp; open.

BLOSS. 1 petal; funnel-shaped. *Tube* cylindrical; crooked. *Border* with 5 shallow clefts; blunt. *Mouth* closed by 5 prominent, convex, approaching valves.

CHIVES. *Threads* 5, very small; fixed to the bend of the tube. *Tips* small, covered by the valves.

POINT. *Seed-buds* 4. *Shaft* thread-shaped; as long as the chives. *Summit* blunt; cloven.

S. VESS. None. The *Cup* very large and bladder-shaped incloses the seed.

SEEDS. 4; rather long; covered by a dry hard wrinkled coat.

ESS. CHAR. *Tube of the blossom* crooked.

wild LYCOP'SIS *arvensis*. *Leaves* spear-shaped, rough with hair. *Cups* while in flower upright.

Fuchs. 269, *cop.* in *Dod.* 628. 2, which *repr.* in *Ger. em.* 799. 3, and *cop.* again in *J. B.* iii. 531, and *H. ox.* xi. 26. 8.—*Riv.*

man.

mon. 7. 2, bristly hairs not represented.—Fl. dan. 435, leaves tapering to a point; the undulated toothed edge and bristly hairs not represented.—Blackw. 234, leaves rounded at the end, and with the deficiencies of Fl. dan.—Trag. 234,* as the Fl. dan.

Whole plant rough with strong hairs. LINN. ST.—Hairs bulbous at the root. HALL. ST.—Heads of the summit beset with small tubes in lines, the ends of which are expanded into a kind of border. Mr. HOLLEFEAR.—Leaves sometimes nearly strap-shaped, and sometimes nearly egg-shaped; waved at the edge, and somewhat toothed. Stems thick, round. Empal. segments sometimes spear-shaped. Bloss. sky blue. WITH. ST.—Stem either single, or branching from the bottom. Leaves waved, sometimes oblong, and the upper sometimes egg-shaped; teeth terminated by bristly hairs. Empal. upright also when the seeds are ripe. ST.

Corn fields and road sides. [Sometimes on dunghills, when the leaves are often $1\frac{1}{2}$ inch broad. ST.] A. June.—Sept.

Cows, Horses, Sheep, and Goats eat it. Swine refuse it.

203. EC'H IUM. Vipergrafs.

EMPAL. Cup with 5 divisions; upright; permanent. Segments awl-shaped; upright.

BLOSS. 1 petal; bell-shaped. Tube very short. Border gradually widening; with 5 clefts, blunt; upright. Segments generally unequal; the 2 upper being the longest; the lower smaller; sharp; reflected. Mouth open.

CHIVES. Threads 5; as long as the blossom; awl-shaped; declining; unequal. Tips oblong; fixed sideways.

POINT. Seed-buds 4. Shaft thread-shaped; as long as the chives. Summit blunt; cloven.

S. VESS. None. The cup becoming more rigid, contains the seeds.

SEEDS. 4; roundish; obliquely tapering.

ESS. CHAR. Bloss. irregular; the mouth open.

OBS. In the *E. italicum* the blossom is nearly regular.

EC'H IUM *italicum*. Stem upright, hairy. Spikes wall hairy. Segments of the Blossoms nearly equal. Chives extremely long.—

* Referred by C. B. to his *Eugloss. sylv. min. alt. and asperius* C. B. pin. 256, and as Fl. dan. 435 may prove to be at least a distinct variety. ST.

Dod. 631. 2, repr. in *Lob. obs.* 312. 1, *Ger. em.* 802. 1; and cop. in *H. ox.* xi. 27. 6, and *Park.* 519.—*J. B.* iii. 588. 1, (the separate flowers do not belong to it.—*J. B.* iii. 584. 2, is referred to by Ray, but it seems the α of Linn. who regards our plant as a variety of the true *italicum*.)

Bloss. invariably white. HALL.

Sandy meadows and pastures. On the sandy ground near St. Hilary, Jerfey. P. HUDS. A. RAY.

common EC'HIIUM *vulga're*. Stem rough with hairy tubercles. Stem-leaves spear-shaped, rough with hair. Flowers in lateral spikes.—

Fl. dan. 445.—*Riv. mon.* 7. 1, both beginning to flower.—*Matth.* 996, cop. in *Dod.* 631. 1, repr. in *Lob. obs.* 312. 2, *Ger. em.* 802. 2, and cop. in *Park.* 414. 1, in full flower; and *H. ox.* xi. 27, row 3. 1.—*Matth.* 892, root and root-leaves.—(*J. B.* iii. 586, seems more to resemble the *E. italicum*.)

Chives extending beyond the bloss. HALL. Mr. WOODWARD. ST.—Stem frequently, and sometimes the leaves beautifully spotted with red. Mr. WOODWARD.—Stem, the hairs rising from glossy, purplish black tubercles. *Bloss.* upper and lateral clefts rounded, the lowest somewhat pointed. *Threads* just equal to, or about a line longer than the upper segment of the blossom. ST.—*Root-leaves* near 2 feet long, strap-shaped. *Flowers* numerous, in spikes; those of each spike pointing one way, and closely wedged together. *Empal.* fringed with white hairs. *Bloss.* before it expands of a fine red, afterwards of a bright blue; outside beset with short white hairs, and marked with 5 rising ribs, extending from the middle of each segment down to the base, a little distended on the upper side; border, clefts shallow; segments blunt, equal, but the 2 upper longer. *Threads* much longer than the bloss. of a fine shining red. *Tips* grey. *Shaft* very hairy, white, or faintly tinged with red. *Seed-buds* embedded in a fleshy receptacle. A beautiful showy plant, and meriting a place in our gardens. WITH.

E. caule simpl. erecto, fol. lanceolato-linearibus hispida, &c. flaminibus corolla longioribus. MILL. *dict. ed.* 6, to which Mr. HUDSON in his 1st edit. gave the name of *E. anglicum*, but in his 2d it stands as a var. of *E. vulg.*—I believe them to be one and the same plant. ST. Mr. WOODWARD.

On the sides of roads and paths, walls and barren corn fields. RAY. ST.—*Viper's Bugloss.*

Cows and Sheep are not fond of it. Horses and Goats refuse it.—Bees are fond of the flowers. LINN.—But get their wings torn by its strong hairs. SCOP.

α . HUDS.

α. HUDS.—Chives rising even with the blossom. MILL. and HUDS.

Blackw. 299. (Mr. Hudf. refers to several of the figures quoted above, but in all those the chives are longer than the blossom.)

Corn fields and road sides. HUDS.

P. HUDS.—A. RAY.—B. LINN. and LIGHTF.—June.—Aug.

β. *E. vulgare anglicum*. HUDS. Chives longer than the blossom. MILL. and HUDS.—There is a variety in which the branches are more straddling, and the chives nearly twice as long as the blos.

Perhaps the *E. anglicum* of Huds. ed. i. LIGHTF.

Rich meadows and pastures. HUDS. ed. ii.—Barren corn fields pastures, and road sides, common. edit. i.—About Mellrofs Abbey. LIGHTF.—P. HUDS.—A. RAY.—Aug.

EC'H IUM *violaceum*. Blos. and chives of the same *short-chived* length. Tube of the blos. shorter than the empalement. LINN.? ST. MR. WOODWARD.

Clus. ii. 164. 2, repr. in Ger. em. 802. 4, and cop. in J. B. iii.

589. 1, and H. ox. xi. 27. 2, referred to by Linn. but the chives are longer than the blos. and Clus. describes the blos. as red.

Very much resembling the *E. vulgare*, but differs as follows: Blos. violet. Stems more spreading. Chives not longer than the blossom, purple. Shaft white, hairy. Blos. tube nearly as long as the empalement. Habit distinct. LINN.—Colour a more pleasing green. Hairs not rising from tubercles. Blos. not red on the first day of its appearance, as in *E. vulg.* but uniformly of a pale blue. MURR. prod. 143.—Spike shorter and not so compact. Hairs not so stiff. MURR. ST.—Lower-leaves spear-shaped, blunt; upper oblong-heart-shaped, pointed. Flowers pointing one way. Bunches (or rather Spikes) rolled back. Chives, the 5th shorter. Threads flesh-coloured. RETZ. obs. ii. ST.—Whole plant smaller, more slender, weak, and hairy than *E. vulg.* but the hairs softer, some of them rising from tubercles. The tubercles hardly, if at all, discernible on the leaves; though they are on the stem, where they are intermixed with short hairs not rising from tubercles. Empal very unequal. Blos. unequal, smaller than those of *E. vulg.* deep blue. Chives always within or just even with the blossom. MR. WOODW. ST.—Stem a foot high, branching at the top and bottom. Flower-leaves, the lower ones heart-spear-shaped, longer than the flowers. Empal. segments broader than in *E. vulg.* Blos. half as long again as the empal. at the base of the 2 upper segments beset both within and without with scattered hairs. Chives even with the 3 lower segments of the blossom. ST.

Echium

Echium alterum, *sive*, *Lycopsis anglica*. R. *syn.* 228, which “ differs from *E. vulg.* chiefly in the smallness of the flower.” Dr. RICHARDSON. *ib.*—*E. caule simpl. erecto, fol. caulin. Sc. flaminilus corollam æquantibus*. MILL. *dict. ed.* 6.?

Banks, and corn fields. Near Norwich, Mr. WOODWARD.—Cultivated in Mr. Ballard’s garden under the title of *E. italicum*, compared with a specimen since sent me by Mr. Woodward. ST.

210. PRIMULA. Primrose.

EMPAL. *Fence* small; of many leaves; including several flowers. *Cup* 1 leaf; tubular; sharp; upright; permanent; with 5 angles, and 5 teeth.

BLOSS. 1 petal. *Tube* cylindrical; as long as the cup; terminated by a short hemispherical neck. *Border* expanding, with 5 shallow clefts. *Segments* inversely heart-shaped; notched at the end; blunt. *Mouth* open.

CHIVES. *Threads* 5; very short; within the neck of the blossom. *Tips* upright; approaching; tapering; within the tube.

POINT. *Seed-bud* globular. *Shaft* thread-shaped; as long as the cup. *Summit* globular.

S. VESS. *Capful* cylindrical; nearly as long as the cup, which covers it; of 1 cell; opening at the top with 10 teeth.

SEEDS. Numerous; roundish. *Receptacle* oblong; egg-shaped; loose.

ESS. CHAR. *A fence to the rundle. Tube of the blosf. cylindrical; mouth open.*

spring PRIMULA *veris*. Leaves toothed; wrinkled. Leaves notched. Empalements woolly, inflated. RETZ. *obs.* ii. n. 13.

cowslip α . *officinalis*.—*P. officinalis*, which see.

oxlip β . *elatior*.—*P. elatior*, which see.

common γ . *acaulis*.—*P. acaulis*, which see.

These varieties, though constant, I do not distinguish as species any more than a Black from a European. LINN.—The latter case, however, admits of proof, the former has only conjecture in support of it. The opposite opinion is supported by Haller, Scopoli, and Hudson. ST.—But the accurate Dr. Martin, in his *Cat. Cant.* p. 30, says, experience hath taught him to adopt the opinion of

Linnaeus:

Linnaeus; though at the same time, with that candour which ever distinguishes real merit, he quotes a different opinion from another author. WITH.

PRIMUMULA *officina'lis*. SCOP.—Leaves toothed, *Cowslip* wrinkled. Border of the blofs. concave. LINN.—Several flowers on a stalk, all nodding. HUDS.—Diameter of the blofs. not equal to the length of the cup. SCOP. ST.

Ludw. 43.—*Fl. dan.* 433.—*Blackw.* 226.—*Walc.*—*Fuchf.* 850.—*Clus.* i. 301. 1, repr. in *Lob. obs.* 305. 1, and *Ger. em.* 780. 1.—*Trag.* 201.—*Ger.* 635. 2.—*Matth.* 1149, very ill done.—(*Col. phytob.* 6. 2, seems rather *P. elatior.*)

Blofs. sweet-scented, full yellow, with a blotch of orange at the base of each segment. The whole plant with a delicate hoariness upon it. HALL. ST. WITH.—Leaves sometimes heart-egg-shaped, with a portion of the leaf running down the leaf-stalk, with a bluish mealiness, shorter than the stalk. Little fruit-stalks shorter than the flowers. ST.—*Blofs.* contracted about the middle of the tube, where the chives are inserted. WITH.

Primula veris officinalis. LINN.—*Veris.* HUDS.

Fagils. *Paigles.* *Cowslips.*

Meadows and pastures. [Chiefly, if not always, in a clayey soil. Half way up Arthur's Seat, Edinburgh, but the soil a ferrugineous stone decomposed. ST.] P. Apr. May.

The blossoms are used for making cowslip wine. The leaves sometimes eaten as a pot-herb, and in fallads. The root has a fine scent, like anise.—Silk-worms are fond of the leaves and flowers. *Transf. of Soc. of Arts*, ii. p. 157.

PRIMUMULA *elat'ior*. (*Germ. synon.* ST.) Leaves *Oxlip* toothed, wrinkled. Border of the blossom flat. LINN.—Several flowers on a stalk, the outer ones nodding. HALL.—Diameter of the blossom exceeding the length of the cup. ST.

Fl. dan. 434, right hand stalk the best.—*Fuchf.* 851, cop. in *J. B.* iii. 496. 2.—*Clus.* 301. 2, repr. in *Dod.* 147. 1, *Lob. obs.* 305. 3, *Ger. em.* 780. 2.—*Ger.* 635. 1.—*Col. phytob.* 6. 2.—*Matth.* 1150, very ill done.—(*Ger.* 635. 2, is *P. officinalis.*)

Leaves like those of the *P. acaulis*. *Blofs.* pale yellow, of a deeper yellow at the base of the border. HALL. ST.—Leaves nearly as long as the stalk. *Pedicles* generally longer than the flowers. *Flowers* scentless. The *Polyanthus* of the florists appears to me a variety of this species. See *R. syn. ed.* i. p. 159. ST.—In every respect resembling the *P. offic.* but the parts proportionably larger.—*Blofs.* more expanded;

expanded; diameter of the border more than the length of the tube. WITH.

Primula. HALL. n. 609.—*Primula veris elatior*. LINN.—*Vulgaris* β. HUDS. ed. II.—*Veris* β. ed. I.—*Oxlips*. Great Cowslips.

Woods, hedges, and sometimes pastures. [Clayey pastures, Suffolk. Mr. WOODWARD.—High pastures, near Little Wenlock, Shropshire. WITH.] P. Apr. May.

common **P R I ' M U L A** *acaulis*. (Germ. *synon*. ST.) Leaves toothed, wrinkled. No common stalk. LINN.—One flower on a stalk. HALL.—Border of the blossom flat. HUDS.—The diameter of the blofs. exceeding the length of the cup. SCOP. ST.

Sheldr. 11.—*Fl. dan.* 194.—*Walc.*—*Blackw.* 52, blossoms by far too small.—*Clusf.* i. 302. 1, repr. in *Dod.* 147. 3, *Lob. obs.* 305. 4, *Ger. em.* 781. 5, and cop. by *Park.* 535. 1, and *H. ox.* v. 24. 8 and 9.—*Park. par.* 243. 1.—*Col. phytob.* 6. 1.—(*J. B.* iii. 497, is *P. officinalis*.)

It has a common stalk, but it is exceedingly short, and is concealed beneath the surface of the ground, so that the stalks which support the flowers are only elongated little fruit-stalks. LINN. ST.—Leaves somewhat shorter than the fruit-stalks, smooth above, (except along the mid-rib. ST.)—Hairy underneath. HALL. ST.—Bloss. of a pale whitish straw colour, with a yellow star-like blotch of 5 rays furrounding the mouth of the tube. There is found in old gardens a variety with a dull purplish rose-coloured blossom. ST.—Fruit-stalk and empal. woolly. WITH.

Primula veris acaulis. LINN.—*Primula sylvestris*. SCOP.—*Primula vulgaris*. HUDS.—Primrose.

Woods, hedges, thickets, and heaths, [particularly in a clayey soil. WITH.] P. Apr. May.

Gerard reports that a dram and a half of the dried roots taken up in autumn, operates as a strong but safe emetic.

Sheep and Goats eat it. Cows are not fond of it. Horses and Swine refuse it. LINN.—Silk-worms may be fed with the leaves. *Transf. of Soc. of Arts*, ii. p. 157.

Birds-eye **P R I ' M U L A** *farinosa*. Leaves scolloped, smooth. Border of the blossom flat.—

Fl. dan. 125.—*Walc.*—*Gmel.* iv. 44. 2 and 3.—*Ger.* 639. 2 and 1.—*Clusf.* i. 300. 1, repr. in *Lob. obs.* 307. 2, and *Ger. em.* 783. 1, and cop. in *H. ox.* v. 24. row 2. 5 and 6.—*Clusf.* 300. 2, repr. in *Lob. obs.* 307. 1, *Ger. em.* 783. 2, and cop. in *J. B.* iii.

B. iii. 493. 3. *ib.* 3. 6.—*H.* ox. *ib.* 7.—*J. B.* *ib.* 2.—*Swert.* ii. 4. 9.—*Park. par.* 243. 10.

Fruit-stalks and *empal.* as if dusted with flour. LINN.—*Leaves,* veins green; upper surface green. *Stalk* mealy, after flowering losing its mealiness, and lengthening. *Fruit-stalks* expanding, after flowering upright, but approaching. MR. WOODW.—*Leaves* mealy underneath. *Empal.* as long as the tube of the blos. *Blos.* purplish blue, with 5 yellow glands at the divisions of the border. HALL. ST.—Or rather bordered by an elevated fleshy ring, marked with 5 nicks, giving the appearance of its being composed of as many glands. This has led Haller to consider it as an *Aretia*, probably not recollecting that in *P. officinalis* there is a similar border round the mouth of the tube. ST.

Birds-eye. *Birds-eye.*

Marshes and bogs on mountains in the north. RAY. MR. WOODWARD.—[Meadows near Kendall in the richest profusion. ST.] P. May.

Horses, Sheep, and Goats eat it. Cows refuse it. The flowers are beautiful, but they indicate a barren soil. LINN.—It is, perhaps, the most beautiful of our English plants, or yields only to the *Hottonia*. ST.—The *Phalæna pronuba* lives upon the different species.

215. MENYAN'THES. Buckbean.

EMPAL. *Cup* 1 leaf, with 5 upright divisions; permanent.

BLOSS. 1 petal; funnel-shaped. *Tube* short, somewhat cylindrical at bottom, but funnel-shaped upwards. *Border* cloven more than half way down into 5 segments. *Segments* blunt; reflected; expanding; remarkably hairy.

CHIVES. *Threads* 5; awl-shaped; short. *Tips* sharp; upright; cloven at the base.

POINT. *Seed-bud* conical. *Shaft* cylindrical; nearly as long as the blossom. *Summit* cloven; compressed.

S. VESS. *Capsule* egg-shaped; of 1 cell: bound round by the cup.

SEEDS. Many; egg-shaped; minute.

ESS. CHAR. *Blos.* hairy. *Summit* cloven. *Caps.* of 1 cell.

Obs. The 1st species has the segments of the petals fringed at the edges; but the upper surface is not hairy.

MEN-

fringed MENYAN'THES *nymphoides*. Leaves heart-shaped, very entire. Blossoms fringed.—

Fl. dan. 339.—*Tourn.* 67, *flowers*, &c.—*J. B.* iii. 772. 1, *cop.* in *Pet.* 71. 4.

Rundle simple, sitting, from the side of a leaf-stalk. LINN.—*Leaves* circular-heart-shaped, serpentine at the edge. *Empal.* segments spear-shaped. *Bloss.* twice as large as the *empal.* segments with spear-shaped impressions. *Habit* that of *Nymphaea*. WIGG. ST.—*Bloss.* segments inversely egg-shaped, the middle of each veined, and the part so veined bordered by 2 stronger veins, which, converging towards each end, give the appearance of a narrow spear-shaped petal being laid upon it; finely toothed at the edge, by no means according with Linnæus's character of "bloss. hairy;" teeth tapering. ST.—Allied to *Claytonia*, totally distinct from *Menyanthes trifoliata*, not belonging even to the same natural order. WIGG.—The structure of the bloss. as above described, induces me to accede to the opinion of *Tourn.* Gmelin, and Wiggers. ST.

Waldschmidia nymphoides. WIGGERS. but he gives us no generic character, and offers us no reason for not having adopted Gmelin's name of *Limnanthemum*. ST.—*Blossoms* yellow. *Leaves* sometimes spotted.—*Fringed Water Lily*.

Large ditches and slow streams. P. June. July
[Lady Clifford's botanical garden at K. Weston, near Bristol.]

Trefoil MENYAN'THES *trifoliata*. Leaves growing by threes.—

Curt. iv. 40.—*Fl. dan.* 541.—*Blackw.* 474.—*Ger.* 1024. 1 and 2.—*Dod.* 580, *repr.* in *Lob. obs.* 496. 2, *Ger. em.* 1194, and *cop.* in *Park.* 1212, in *fruit*.—*H. ex.* xv. 2. row 2, 1st figure on the left hand.

Fruit-stalk (or rather *Bunch*) opposite to the leaves, but below the summer leaves. *Flowers* 3, from the same part of the fruit-stalk as in *Hottonia*. *Bloss.* hairy; segments stand distinct, not lapping over each other. LINN.—Rose-coloured without, white within. CURT.

Marsh Trefoil. Water Trefoil. Marsh Cleaver.

Ponds and pits, frequent. P. June. July.

An infusion of the leaves is extremely bitter, and is prescribed in Rheumatisms and Dropsies. A dram of them in powder purges and vomits. It is sometimes given to destroy worms. In a scarcity of hops this plant is used in the North of Europe to bitter the ale: two ounces supply the place of a pound of hops. Some people smoke the dried leaves. The powdered roots are sometimes used in Lapland instead of bread, but they are unpalatable. Some

the people say that sheep will eat it, and that it cures them of rot; but from the Upsal experiments it appears, that though rats eat it, Sheep sometimes will, and sometimes will not. Cows, horses, and Swine refuse it.

216. HOTTONIA. Featherfoil.

EMPALE. Cup of 1 leaf, with 5 divisions. Segments strap-shaped; upright; open.

LOSS. 1 petal; salver-shaped. Tube as long as the empale. Border with 5 clefts; flat. Segments oblong, egg-shaped; notched at the end.

HIVES. Threads 5; awl-shaped; short; upright; standing upon the tube, and opposite to the segments of the blossom. Tips oblong.

POINT. Seed-bud globular, tapering. Shaft thread-shaped; short. Summit globular.

.. VESS. Capsule globular, tapering; 1 cell; standing upon the empalement.

SEEDS. Many, roundish. Receptacle globular; large.

ESS. CHAR. Bloss. salver-shaped. Chives fixed on the tube of the blossom. Capsule 1-celled.

HOTTONIA *palustris*. Fruit-stalks in whorls *water* consisting of several flowers.—

Curt. i. 4.—Fl. dan. 487. β .—Matth. 1168.—Dod. 584. 2, repr.

in Lob. obs. 463. 2, Ger. em. 826. 1, and cop. in Park. 1256. 4.

—Ger. 678. 1.—Dod. 584. 3, repr. in Ger. em. 826. 2. β .—

Gisek. 43.

Foliage under water as in *Myriophyllum*. Spike of the flowers alone rising above. LINN.—Some flowers have 6 chives; and then the cup and the blossom are divided into 6 segments. WITH.—Leaves winged. Blossoms white or tinged with pale purple.

Water Violet. Water 1 arrow. Water Gilliflower.

Ponds and ditches. [Several places near Stratford, Essex. Mr. TONES.—Ditches, Suff. frequent. Mr. WOODWARD.—In a pit by the foot road from Wellington, in Shropshire, to Leegomery. WITH.—Between Ormskirk and Liverpool. ST.]

Cows eat it. Swine refuse it.

P. July. Aug.

2. See Ger. em. p. 826. n. 2, figures above marked β .

smaller leaved

219. LYSIMA'CHIA. Loofestriſe.

EMPAL. *Cup* with 5 diviſions; ſharp; upright; permanent.

BLOSS. 1 petal; wheel-shaped. *Tube* none. *Border* with 5 diviſions; flat. *Segments* oblong-egg-shaped.

CHIVES. *Threads* 5; awl-shaped. *Tips* tapering.

POINT. *Seed-bud* roundiſh. *Shaft* thread-shaped; as long as the chives. *Summit* blunt.

S. VESS. *Capsule* globular; 1 cell; 10 valves.

SEEDS. Several, angular. *Receptacle* very large; globular; dotted.

ESS. CHAR. *Bloſs.* wheel-shaped. *Capsule* globular; ſharp-pointed; valves 10.

* *Fruit-stalks* with ſeveral flowers.

yellow LYSIMA'CHIA *vulgaris*. Panicked. Bunches terminating.—

Blackw. 278, hairs too ſtrong.—*Chuf.* ii. 50. 2, repr. in *Dod.* 84, *Ger. em.* 474. 1, and cop. in *Park.* 544. 1, and *H. ox.* v. 10. 14.—*Matth.* 949.—*Fl. dan.* 689, flowers well done, but habit bad.—*Fuchſ.* 492, imitated by *Trag.* 183.—(*J. B.* ii. 903, is a *Cardamine*.)—*Ger. em.* 474. 2, cop. in *J. B.* ii. 904. 1, ſeems to be the ſame plant.

Leaves often in threes and fours. *Threads* united at the baſe, unequal in height. LEERS.—One of the *chives* ſhorter. *Bloſs.* and *threads* ſprinkled with glands on fruit-stalks. SCOP.—*Stem* ſcored, woolly. *Leaves* woolly underneath, ſlightly hairy above; thoſe of the branches oppoſite, nearly fitting, ſpear-shaped, waved at the edge. *Flower-leaves* hairy at the edge and on the outſide, edged and tipped with red. *Empal.* edged with red and fringed; diviſions ſometimes 6. *Bloſs.* yellow, the inſide beſet with ſhining yellow globules; diviſions ſometimes 6. *Chives* unequal. *Threads* broad at the baſe and united ſo as to form a cylinder incloſing the ſeed-bud. *Tips* red at the edges. *Duſt* yellow. WITH.

Yellow Willowherb.

Banks of rivers and ſhady marſhes. [By the ſide of the Avon, at Perſhore. MR. BALLARD.]

P. June. July.

The leaves give a yellow dye to wool.—Cows and Goats eat it. Sheep are not fond of it. Horſes and Swine reſuſe it.

β. Huds. *Leaves* as ſhort again. *Flowers* not ſo much ſcattered. RAY.

LYSI-

LYSIMA'CHIA *thyrsiflora*. Bunches lateral, on *tufted* fruit-stalks.—

Fl. dan. 517.—*Clus.* 53. 1, *repr. in Ger. em.* 475. 3.—*Baier. epist.* at p. 91 and 162, f. 1.—*Clus.* 53. 2, *cop. in Park.* 544. 3, and *J. B.* ii. 904. 2.—*Dod.* 607. 1.

Lateral bunches in an upright plant is a peculiar circumstance. *Bloss.* divided almost to the base; with very short teeth interposed; *segments* marked at the end with tawny dots. LINN.—*Stem* always simple. WEBER.

[Marshes and banks of rivers, near King's Langley, Hertfordshire. In a bog near Severus's Hills, near Yorksh. Dr. WHITE.—But the bog having been since drained it is no longer to be found there, as the Doctor informs me. Dr. SMITH.]—Anglesea. P. June.

Goats eat it. Cows and Sheep are not fond of it. Horses and Swine refuse it.

** *Fruit-stalks with only 1 flower.*

LYSIMA'CHIA *nemorum*. Leaves egg-shaped. *Pimpernel* Flowers solitary. Stem trailing.—

Fl. dan. 174.—*Clus.* ii. 182. 2, *repr. in Lob. obs.* 248. 2, *Ger. em.* 613. 4; and *cop. in Park.* 559. 5, and *H. ox.* v. 26. row 2. 1 and 2.—*Ger.* 494. 3.—(*H. ox.* v. 26. row 2. 5, is *Anagall. arvens.*)

Bloss. edge beset with very short glandular hairs. ST.—*Stem* cylindrical. *Leaf-stalks* short, flat. *Fruit-stalks* straight when in flower, afterwards bowed down. *Chives*, *shaft*, and *summit* yellow. *Bloss.* segments very slightly scolloped. *Seeds* kidney-shaped. WITH.

Yellow Pimpernell of the Woods.

Moist shady places.

P. May. June.

LYSIMA'CHIA *Nummularia*. Leaves somewhat *Moneywort* heart-shaped. Flowers solitary. Stem creeping.—

Ludw. 148.—*Curt.* iii. 25.—*Fl. dan.* 493.—*Blackw.* 542.—*Walc.*—*Trag.* 808.—*Fuch.* 401, *cop. in J. B.* iii. 371. 1.—*Ger.* 505. 2.—*Matth.* 1013, *cop. in Dod.* 600. 2, which *repr. in Lob. obs.* 251. 1, *Ger. em.* 630. 1, and *cop. in Park.* 555. 1.—*Park.* 555. 1. (6).—*H. ox.* v. 26. row 1. 1, *Nummularia*.—*Ger.* 505. 1.

Bloss. edge fringed with glands. *Threads* beset with glands. *S. pess.* rarely comes to perfection, as often happens to those plants which increase much while in flower, either by their roots or stalks. CURT.—To examine it at other seasons, to discover whether it may not produce fruit, as the violet does, without coloured blossoms. ST.—*Stem* compressed, with 4 membranaceous edges.

Leaves sometimes curled at the edge, egg-shaped, blunt. *Bloss.* and *threads* covered with globular glands. *Tips* arrow-shaped. WITH.

Moneywort. Herb Twopence.

Moist Meadows.

P. June.

The plant is a little acrid, and somewhat astringent.

Cows and Sheep eat it. Goats are not fond of it. Horses refuse it.

220. ANAGAL' LIS. Pimpernel.

EMPAL. *Cup* with 5 divisions; sharp; permanent; *segments* keeled;

BLOSS. 1 *petal*; wheel-shaped. *Tube* none. *Border* with 5 divisions; flat; *segments* roundish egg-shaped; connected by the claws.

CHIVES. *Threads* 5, upright, hairy towards the bottom; shorter than the blossom. *Tips* simple.

POINT. *Seed-bud* globular. *Shaft* thread-shaped; a little inclining. *Summit* knobbed.

S. VESS. *Capsule* globular; of 1 cell; cut round.

SEEDS. Several; angular. *Receptacle* very large; globular.

ESS. CHAR. *Bloss.* wheel-shaped. *Capsule* cut round.

common ANAGAL' LIS *arvensis*. Leaves undivided. Stem trailing.—

Bloss. finely notched. LEERS. REICH.

red α. Blossoms red.

Curt. 1. 1.—*Fl. dan.* 83.—*Trag.* 388.—*Blackw.* 43.—*Fuchf.* 18, *cop. in J. B.* iii. 369. 2.—*Dod.* 32. 1, *repr. in Lob. obs.* 247. 2, *Ger. em.* 617. 1, and *cop. in Park.* 558. 1.—*Walc.*—*H. ex.* v. 26. row 2. 5.—*Matth.* 621, *cop. in Ger.* 494. 1.—(*H. ex. ib.* 1 and 2, is *Lysimachia nemorum.*)

Blossoms open, about 8 in the morning; but close in the afternoon. LINN.—*Leaves* dotted underneath. SCOP. ST.—*Dots* brown. *Threads*, hairs jointed. CURT. ST.—*Summit* standing without the circle of the tips. *Petals*, notches tipped with glandular hairs. CURT.—*Bloss.* scarlet. It is remarkable with what a sparing hand nature has dealt out her richest and most glorious colour, for except this, and the poppies, I do not recollect any indigenous plant of a scarlet colour. Mr. DICKENSON.—*Stem* 4-cornered. *Leaves* sitting, opposite; when magnified appear frosted over with very

very minute shining glands. *Fruit-stalks* from the bosom of the leaves; after flowering hanging down. *Empal.* segments spear-shaped, skinny at the edges. *Bloss.* scarlet. *Threads* united at the base, purplish. *Tips* yellow. *Shaft* purplish. *Summit* greenish yellow. *Caps.* marked with 5 lines as if it would open into 5 valves, whereas it separates horizontally into 2 parts. **WITH.**

Male Pimpernel.—Corn fields and sandy places. **A.** May.—Aug.

Cows and Goats eat it. Sheep refuse it. Small birds are very fond of the seeds.

β. Leaves 4 at a joint. *Bloss.* red. Rare. **RAY.**

four-leaved
whiteflower'd

γ. *Bloss.* white; purple in the centre. **POLLICH.**—In Cowley Field. **RAY.**

δ. Blossom blue. **RAY.** **WITH.**

blue flower'd

Blackw. 274.—*Fuchf.* 19, *cop.* in *J. B.* iii. 369. 1.—*Chyf.* ii. 183.

1, *repr.* in *Dod.* 32. 2, *Lob. obs.* 248. 1, and *Ger. em.* 617. 2.

—*Matth.* 622.

Leaves mottled with dark purple underneath. **WITH.**

Female Pimpernel.—Between Stockwell and Camberwell. **HUDS.**
—[Bredon Hill, in a corn field at the top of Overbury Wood, Worcestershire. **NASH.**]

ANAGAL' LIS *tenella*. Leaves egg-shaped, rather bog pointed. Stem creeping.—

Curt. iii. 32.—*H. ox.* v. 26. row 1. 2.—*Ger. em.* 630. 3, *cop.*

in *Park.* 554. 2.—*J. B.* iii. 371. 2.

Fruit-stalks longer than the leaves. *Threads* woolly. *Caps.* cut round. **LINN.**—*Bloss.* pale red, with veins of a deeper colour. *Threads* white, very hairy; *hairs* white, jointed. **CURT. ST.**—Necklace-like; resembling those of *Tradescantia virginica*. **ST.** July 75.—*Stems* reddish, sending out roots at the joints. *Empal.* coloured. *Bloss.* pale purple, each segment marked with 7 deeper coloured lines. *Tips* yellow. *Shaft* upright, straight. *Summit* very small. **WITH.**

Purple-flowered Moneywort.

Wet heaths, meadows, and turfy bogs.—[In Suffolk, frequent. **MR. WOODW.**—Tittenfor Hills, and Cannock Heath, Staffordshire. **ST.**]

P. July. Aug.

226. A Z A L' E A. Rosebay.

EMPAL. *Cup* with 5 divisions; sharp; upright; small; coloured; permanent.

BLOSS. 1 *petal*; bell-shaped; with 5 shallow clefts. *Segments* with the edges bent inwards.

CHIVES. *Threads* 5; thread-shaped; growing on the receptacle; loose. *Tips* simple.

POINT. *Seed-bud* roundish. *Shaft* thread-shaped; as long as the blossom; permanent. *Summit* blunt.

S. VESS. *Capsule* roundish; with 5 cells and 5 valves.

SEEDS. Many; roundish.

ESS. CHAR. *Bloss.* bell-shaped. *Chives* fixed to the receptacle. *Capsule* 5-celled.

trailing AZAL'EA *procumbens*. Branches spreading wide, and trailing.—

Linn. lapp. 6. 2.—*Clus.* i. 75. 3, cop. in *J. B.* i. a 527, and improved in *Jonst.* 116. 8.—*Fl. dan.* 9.—(*Penn. tour in Scotl.* ii. 5, I have not at hand.)

Flowers bright red. LIGHTF.

Higland mountains, on dry barren ground, near their summit. First discovered in Great Britain by Mr. Lightfoot. [Ben Lomond near the top. Found there first by the Rev. Mr. Stuart, of Lufs. Dr. SMITH.]

231. CONVOL'VULUS. Bindweed.

EMPAL. *Cup* with 5 divisions; approaching; egg-shaped; blunt; small; permanent.

BLOSS. 1 *petal*; bell-shaped; expanding; large; plaited; *Border* slightly marked with 5 or 10 notches.

CHIVES. *Threads* 5; awl-shaped; half the length of the blossom. *Tips* egg-shaped; compressed.

POINT. *Seed-bud* roundish. *Shaft* thread-shaped; as long as the chives. *Summits* 2; oblong, and somewhat broad.

S. VESS. *Capsule* inclosed by the cup; roundish; with 1, 2, or 3 valves.

SEEDS. 2; roundish.

ESS. CHAR. *Bloss.* bell-shaped, plaited. *Summits* 2. *Capsf.* 2-celled, each cell 2-seeded.

Stem

* *Stem twining.*

CONVOL'VULUS *arvensis*. Leaves arrow-shaped, *small* pointed on each side. Fruit-stalks bearing generally 1 flower. LINN.—Flower-scales awl-shaped, at a distance from the flowers. HALL. ST.

Curt. ii. 20.—Fl. dan. 459.—Walc.—Fuchf. 253, cop. in J. B. ii. 157.—Trag. 806.—Ger. 712. 2.—Clus. ii. 50. 1, repr. in Dod. 393, Lob. obs. 340. 2, and Ger. em. 861. 2, and cop. in Park. 171. 2, and H. ox. i. 3. 9.—Matth. 1011, as evident from its empal. and habit, though the lobes of the leaves resemble those of *C. sepium*.

Bloss. reddish white; striped, or purple

Corn fields, and road sides.

P. June. July.

Cows, Horses, Goats, and Sheep eat it. Swine refuse it.

The blossoms give a deep yellow or orange tincture to water, which is heightened by alum and alkalies.

β. auriculatus. JUSS. ST.—Leaves strap-arrow-shaped, smaller. eared Flowers smaller. RAY. ST.

Pluk. 24. 3.

Least Bindweed.—Between Harleston and Everfden, Cambridsh. RAY.

γ. Bloss. very small, divided almost to the base.

smallflowered

Near Maidstone. RAY.

CONVOL'VULUS *sepium*. Leaves arrow-shaped, *great* the posterior angles lopped. Fruit-stalk 4-cornered, bearing 1 flower. LINN.—Flower-scales heart-shaped. HALL.—Close to the flower. ST.

Curt. i. 6.—Fl. dan. 453.—Sheldr. 56.—Blackw. 38.—Dod. 392, repr. in Lob. obs. 340. 1, Ger. em. 861. 1, and cop. in Park. 163. 3, and H. ox. i. 3. 6.—Ger. 712. 1.—Fuchf. 720, cop. in J. B. ii. 154.—Trag. 805.—Blair. 4. 3.—Swert. ii. 14. 8.—(Matth. 1212, is some other species.)

Edges of the leaves brown. Blossoms white. LINN.—Floral-leaves 2; close to the cup.

Moist hedges.

P. July. Aug.

The inspissated juice of the plant, in doses of 20 and 30 grains, is a powerful drastic purge. Scammony is the inspissated juice of a species of *Convolvulus* so much resembling this, that they are with difficulty distinguished. Can it then be worth while to import Scammony from Aleppo at a considerable annual expence, when a medicine with the very same properties grows spontaneously in many of our hedges? But though an acrid purgative to the

human race, it is eaten by Hogs in large quantities without any detriment.

Sheep, Goats, and Horses eat it. Cows refuse it.

* * Stem not twining.

sea CONVOLVULUS *Soldanel'la*. Leaves kidney-shaped. Fruit-stalks with 1 flower.—

Matth. 469.—*Dod.* 395, repr. in *Lob. obs.* 329. 2, *Ger. em.* 838.

1, and cop. in *Park.* 168. 2. 6, and *H. ox.* i. 3. 2.—*Ger.* 690.

Root, on being broken, pours out a whitish water, bitter, salt, and unpleasing to the taste. *PARK.*—*Stems*, in open ground short, and lying flat, taking a semi-circular direction; but among bushes grows to some length unbranched, bearing no flowers. *Leaves* sometimes heart-shaped. *Leaf-stalks* long. *Mr. Woodward.*—*Flower-scales* at the base of the flower, inclosing the empalement; 2 opposite, heart-oblong, nicked at the end just longer than the empal. *Empal.* rather of 5 leaves; *leaves* oblong, the innermost involving the fruit, and each successively wrapping round those beneath it. *St.*—*Blossoms* red.

Scottish Scurvy Grass. Sea Colewort.

Sea shore. [Norfolk coast, frequent. *Mr. Woodward.*]

P. July.

Half an ounce of the juice, or a dram of the powder, is an acrid purge. The leaves applied externally are said to diminish dropfical swellings of the feet. The different species furnish nourishment to the *Sphinx convolvuli* and *Phalæna Elpenor*.

233. POLEMONIUM. Jacobsladder.

EMPAL. Cup beneath; of 1 glass-shaped leaf; permanent; sharp; with 5 shallow clefts.

BLOSS. 1 petal; wheel-shaped. Tube shorter than the cup, closed by 5 valves, placed at the top of it. Border with 5 divisions; large; flat. Segments roundish; blunt.

CHIVES. Threads 5; thread-shaped; inclining; shorter than the blossom; standing upon the valves of the tube. Tips roundish; fixed to the thread sideways.

POINT. Seed-bud egg-shaped, sharp. Shaft thread-shaped; as long as the bloss. Summit with 3 clefts, rolled back.

S. VESS. Capsule covered, egg-shaped, but with 3 angles; 3 cells and 3 valves.

SEEDS. Several; irregular; rather pointed,

Ess,

ESS. CHAR. *Bloss.* with 5 divisions, closed at the bottom with valves which bear the chives. Summit cloven into 3. Capsule 3-celled; superior.

POLEMONIUM *cæruleum*. Leaves winged. common Flowers upright. Empal. longer than the tube of the blossom.—

Tourn. 61. 1, parts of fructif.—Fl. dan. 255.—Dod. 352. 1, repr. in Lob. obs. 412. 1, Ger. em. 1076. 5, and cop. in Park. 123. 12, and J. B. iii. 212. 2.—Ger. 918. 5.—Swert. ii. 28. 3.

Little leaves egg-spear-shaped; 11 pair or more on each leaf. Bloss. blue.—Greek Valerian. Ladder to Heaven.

[Malham Cove, Yorksh. RAY. Mr. WOOD.—And at the Lover's Leap, Buxton. Mr. WOOD.—Near Bakewell. Mr. WHATELY.]

P. June.

Its beauty has obtained it a place in our gardens.

Cows, Goats, and Sheep eat it. Horses are not fond of it.

β. Bloss. white. Fl. juv. ST.—I have seen several stems, white which, on examination, appeared to rise from one and the same root, some of which bore blue, and others white blossoms. LINN.—“I have a sort of it whose bloss. is all white, which came up of the feede of the blew one.” M. S. note in a copy of Ger. em. in an old hand.

About Malham Cove. RAY.

234. CAMPAN'ULA. Bellflower.

EMPAL. Cup with 5 divisions; sharp; not quite upright; superior.

BLOSS. 1 petal; bell-shaped; with 5 clefts, close at the base; shrivelling. Segments broad; sharp; open. Honey-cup in the bottom of the blossom, composed of 5 sharp valves; approaching and covering the receptacle.

CHIVES. Threads 5; hair-like; very short; growing upon the ends of the honey-cup valves. Tips compressed; longer than the threads.

POINT. Seed-bud beneath; angular. Shaft thread-shaped; longer than the chives. Summit thick; oblong; with 3 divisions which are rolled backwards.

S. VESS. Capsule roundish; angular; of 3 or 5 cells, and letting out the seed at as many lateral holes.

SEEDS. Numerous; small. Receptacle columnar, fixed to (the capsule?)

ESS. CHAR. Bloss. bell-shaped, closed at the base by valves which support the chives. Summit cloven into 3. Capsule beneath, opening by lateral orifices.

OBS. The figure of the S. vess. is different in different species.

* Leaves rather smooth and narrow.

round-leaved

CAMPAN'ULA *rotundifolia*. Root-leaves kidney-shaped; stem-leaves strap-shaped. LINN.—Root-leaves sometimes heart, and stem-leaves sometimes spear-shaped. ST.

Curt. iv. 38.—Fl. dan. 855, erroneously named *C. Rafunc.* which see; the heart-shaped root-leaves having been probably overlooked, agreeably to what Mr. Curtis remarks, that when growing among herbage they are seldom observed, unless particularly sought for.—Walc.—Chif. ii. 173, repr. in Dod. 167, Lob. obs. 178. i, Ger. cm. 452. 3; and cop. in Park. 651. 11, and H. ox. v. 2. 17, and J. B. ii. 810. 1.—ib. 796.—Ger. 367. 3.

Leaves sometimes very entire; the lower stem-leaves sometimes sparingly serrated. ST.—Stem round, smooth. Leaves sometimes thread-shaped. Empal. segments considerably expanded when out of blossom. Honey-cup, valves fringed, white. Caps. with 3 cells. Bloss. blue, or purple; sometimes white. WITH.

Heaths and barren pastures.

P. Aug.—Oct.

The juice of the petals stains blue, but with the addition of alum, green. A green pigment is obtained from them.

Cows, Horses, Goats, and Sheep eat it. Swine refuse it. LINN.—A horse refused it. ST.

lesser β . *minor*. Stem-leaves broader, serrated. HALL.

G. B. pr. 34, cop. in J. B. ii. 810. 1, and H. ox. v. 2. 16.—Barr. 453.—(Scheuch. it. vi. f. 14, has very entire leaves. *C. minor. alp. rotundicrib. imis fol. R. syn.* 277.)

Mountains. Snowdon. Rickmansworth, Hertfordshire, and Croydon, Surry. RAY.

γ . Stem-leaves more numerous than those of α . LINN.

Fl. dan. 198, root-leaves heart-shaped, very entire. Stem-leaves spear-shaped; one flower on each stem. *C. uniflora*. HUDS. ed. i.

Highest mountains of Wales and Westmoreland. HUDS.—Hill of Moncrief, near Perth. LIGHTF.—[Skiddaw. Mr. WOODW.]

field

CAMPAN'ULA *patula*. Leaves quite straight. Root-leaves spear-oval. Panicle open.—

Dill. 58. 68.—Fl. dan. 373, flowers the best.

Empal. with a small livid tooth on each side, at the base of the segments. LINN.—Empal. leaves awl-shaped. POLLICH. Mr. WOODWARD.—Half as long as the blossom.—Bloss. purplish blue.

ST.

ST.—*Stem* angular, corners hairy; *stem-leaves* bluntly and slightly notched. MÖENCH. MR. HOLLEFEAR. ST.—Hairs of the stem pointing downwards. ST.—*Stem* containing a milky juice, with 5 corners and 5 flat sides; the corners and sometimes the sides rough with short hairs. *Leaves* spear-shaped, somewhat toothed, and sometimes finely serrated. *Empal. segments* towards the base serrated with minute teeth, but not livid; considerably expanding when out of blossom. *Bloss.* more of a reddish purple than in *C. rotundifolia*; *segments* turned back, and each marked with 3 lines. *Honey-cup* white, fringed. *Capful* 3-celled. WITH.

Woods, hedges, corn fields, and road sides. [Buddon Wood, near Loughborough; between Lichfield and Meriden; and about Worcester. HUDS. NASH. ST.—And Malvern. NASH.—Near the Bath, at Lichfield; and on the road to Colehill. MR. WOODWARD.] B. July. Aug.

CAMPAN'ULA *Rapun'culus*. Leaves waved. Root—*Rampion* leaves spear-oval. Panicle compact.—

Dod. 165. 1, repr. in Lob. obs. 178. 2, Ger. em. 453, and cop. in Park. 643. 1, and H. ox. v. 2. 13.—Fuchf. 214, cop. in J. B. ii. 795.—Ger. 369. 2.—Trag. 727.—(Col. phytob. 22, cop. in H. ox. v. 2. 13, is a different plant.—Fl. dan. 855, is *C. rotundifolia*. Flowers pendant. Stem smooth. Root fibrous.)

Stem angular, rough. *Leaves* spear-shaped. Bunch terminating. Branches resembling it, but shorter and upright. *Fruit-stalks* generally growing by threes, the middle one the longest. LINN.—Flowers upright. DODON. ST.—Root white, like that of Navew. HALL. ST.—About 3 inches long. Stem upright. Branches alternate. Leaves obscurely notched. Flowering-branches sub-dividing at the base. Empal. segments awl-shaped, with a small tooth on each side of the base. POLLICH. ST.—Stem not rough. Whole plant full of a milky juice. Empal. segments bristle-shaped. Bloss. each segment marked with 3 lines. Honey-cup fringed. WITH. ST.—Root spindle-shaped, sometimes branching.—Stem hairy towards the base, smooth above. Leaves towards the base of the stem hairy above or on both sides, blunt; the upper smooth and becoming gradually more pointed; teeth of the notches glandular, whitish, not projecting beyond the edge of the leaf.—Flowering-branches dividing into 3; the middlemost in the upper part of the panicle supporting 1 flower, in the lower part becoming a lesser panicle; the lateral ones very short, each supporting 1 flower, which blossoms after that of the middle branch, and has at its base the rudiment of 2 other flowers. Flower-leaves, one at the base of each fruit-stalk, awl-shaped. Empal. segments twice as long as the seed-bud. Bloss. bluish purple, sometimes whitish pale purple. ST.

Ditch

Ditch banks, fallow fields. Near Croydon. HUDS. ST.—And
 Elther, in Surry. HUDS.—[Old Buckenham Castle, Norfolk. Mr.
 PITCHFORD.—About Hindlip and Enville, Worcesterfh. ST.]

B. Aug.

The roots are eaten raw in fallads, or boiled like asparagus. In
 gardens they are blanched.

** *Leaves rough, and rather broad.*

broad-leaved

CAMPAN'ULA *latifolia*. Leaves egg-spear-shaped.
 Stem undivided, cylindrical. Flowers solitary, on fruit-
 stalks. Fruit nodding. LINN.—Empal. and stem smooth.
Flowers sometimes 2 on a fruit-stalk. HALL. Mr. WOODW.

Fl. dan. 85, two flowers and leaf good.—*Clus.* ii. 172. 1, repr. in

Ger. em. 448. 3, and cop. in *Park.* 643. 1, and ill cop. in *H. ox.*

v. 3. 27.

Leaves spear-egg-shaped, serrated. *Flowers* from the bosom of
 the upper leaves. *Empal.* smooth. LINN.—*Fruit-stalks* with 2 awl-
 shaped leaf-scales about the middle. Mr. HOLLEFEAR. ST.—
Leaves nearly fitting, rough with hair, irregularly serrated. *Fruit-*
stalks upright while in blossom, but afterwards bowed downwards.
Empal. segments a little serrated. *Bloss.* oblong-egg-shaped, with
 5 angles; clefts shallow, purple. *Honey-cup* fleshy, purplish,
 woolly. *Summit* woolly, twice as long as the chives. *Bloss.*
 blue, and sometimes pale red. WITH.

Giant Throatwort.

Thickets and hedges. [In the mountainous parts of the Nor-
 thern counties, frequent. RAY. Mr. WOODW.] P. July. Aug.

The beauty of its flowers frequently procures it a place in our
 gardens. The whole plant abounds with a milky liquor.

Horses, Sheep, and Goats eat it.

nettle-leaved

CAMPAN'ULA *Trachelium*. Stem angular. Leaves
 on leaf-stalks. Cups fringed. Fruit-stalks cloven into
 3. LINN.—Stem hairy. HALL. Mr. WOODW.—*Fruit-*
stalks sometimes with only 1 flower. WILlich. obs. § 84. Mr.
 WOODWARD. ST.—*Empalement sometimes free from hairs,*
except 1 or 2 small ones at the points. ST.

Clus. ii. 170. 2, repr. in *Dod.* 164. 1, *Lob. obs.* 176. 2, *Ger.*

em. 448. n. 1.—*Ger.* 364. 1.—*Fuchf.* 432, cop. in *Trag.* 927.

and *J. B.* ii. 805. 2.—*H. ox.* v. 3. 28.—*Swert.* ii. 16. 4. 5.

—(*Garid.* 19, and *Park. par.* 355. 2, ill done if the plant.)

Leaves egg-shaped, somewhat heart-shaped, toothed. *Fruit-stalks*
 with 3 flowers. *Bloss.* sometimes doubled and tripled. LINN.—
Stem, corners membranaceous. *Upper-leaves* fitting. *Empal.* nearly
 upright.

upright. *Bloss.* hairy within : when double the chives and honey-cup are wanting. *Summits* hairy. *WITH.*—*Bloss.* blue; sometimes pale red.—*Great Throatwort, or Canterbury Bells.*

Woods and hedges.

P. July. Aug.

The whole plant contains a dirty yellow juice.

Cows eat it. Horses and Goats refuse it.

℞. *Bloss.* white. *RAY. LINN.*

white

CAMPAN'ULA glomera'ta. Stem angular, undivided. Flowers sitting. Head terminating.— *clustered*

Herm. par. 235.—*Thal.* 8. 2, *cop. in Barr.* 523. 3.—*J. B. ii.*

801. 2, *cop. in H. ox. v.* 4. 40.—*Clus.* ii. 171. 1, *repr. in Dod.*

164. 2, *Lob. obs.* 176. 3, *Ger. em.* 449. 4, and *cop. in Park.*

644, *fig. 4th, and H. ox. ib.* 43.—(*J. B. ib.* 1, *cop. in H. ox. ib.* 39, *seems a different plant.*)

Leaves egg-oblong, bluntish, sitting. *Flowers* three, in the bottom of the leaves. *LINN.*—*Stem* roughish, simple. *HALL. ST.*

—But sometimes branched. *HALL. Mr. WOODWARD.*—Covered with short hairs. *Root-leaves* egg-spear-shaped, covered with short hairs; on long leaf-stalks. *Empal.* the same. *POLLICH. ST.*—

Leaves sometimes heart-spear-shaped, and rather acutely pointed.

Bloss. hairy. *Mr. WOODWARD. ST.*—*Lower-leaves* on leaf-stalks.

Bloss. blue, reddish, or white. *WITH.*

Little Throatwort, or Canterbury Bells.

Mountainous and chalky pastures.—[Near Pontefract. *Mr. T. F. HILL.*—Chalk Hills, in Norfolk. *Mr. WOODW.*; and Surry; and between Grantham and Wilham Common. *ST. J.* P. July.

*** *Capsules* covered by the reflected segments of the cup.

CAMPAN'ULA hybrida. Stem quite straight, somewhat branched at the base. Leaves oblong, scolloped. Cups incorporated, and longer than the blossom. Caps. prism-shaped. *LINN.*—*Empalement*, segments oval-spear-shaped. *ST.* *corn*

Ger. em. 439. 2, *cop. in Park.* 1331. 2, and *H. ox. v.* 2. 22.

Differs from *C. speculum*, which I regard as its mother; as follows: *Stem* branched only at the base, and scarcely branched at all above. *Cups* sitting, 3 or 4 together. *Bloss.* often lurking in the rudiment of a flower, and not expanding. But notwithstanding there is scarcely a doubt but it originated from the *C. speculum*.

LINN.—*Empal.* segments broader than in *C. speculum*. *WILLICH.*

obs. § 37.—Those of the *C. speculum* awl-shaped, tapering to a fine point, narrower. *ST.*—Permanent, crowning the ripe capsule.

Mr. WOODWARD.—*Bloss.* purple; deeply divided.

Lesser

Lesser Venus Looking Glass. Coddled Corn Violet.

Chalky corn fields. [Bury and elfewhere in Suffolk, in chalky corn fields. Mr. WOODWARD.] A. June. July.

ivy-leaved CAMPAN'ULA *hedera'cca*. Leaves heart-shaped, with 5 lobes, on leaf-stalks, smooth. Stem limber.—

J. B. ii. 797.—H. ox. v. 2. 18.—Pluk. 23. 1.—Pet. Gaz. 51. 2.

—[Fl. dan. 330, bad; leaves not lobed, but serrated, and deeply nerved. Mr. WOODWARD. WITH. and ST.]

Bloss. blue. Is not this plant derived from the seed-bud of one of the *Campanulas* fertilized by the dust of the *Veronica hederæfolia*? LINN.—Lower-leaves heart or kidney-shaped, nearly entire. Mr. WOODWARD.—Stems thread-shaped, trailing, matted together, covering spots of a foot diameter. Mr. WATT.—Threads longer than the tips. WITH.

Moist shady places. [About springs and rivulets in Cornwall, very frequent. Mr. WATT.—Woods in Oxfordshire. Mr. NEWBERRY.] P. May.—Aug.

Phalæna exfoleta feeds upon the different species.

236. PHYTEU'MA. Rampion.

EMPAL. Cup 1 leaf; with 5 divisions; sharp; not quite upright; superior.

BLOSS. 1 petal; starry; expanding; with 5 divisions; segments strap-shaped; sharp; bent back.

CHIVES. Threads 5; shorter than the bloss. Tips oblong.

POINT. Seed-bud beneath. Shaft thread-shaped; as long as the blossom; bent back. Summit with 3 divisions; oblong; rolled back.

S. VESS. Capsule roundish; 3-celled.

SEEDS. Several; small; roundish.

ESS. CHAR. Bloss. wheel-shaped, divided into 5; segments strap-shaped. Summit cloven into 2 or 3. Capsule of 2 or 3 cells; beneath.

round-headed PHYTEU'MA *orbiculat'ris*. Head roundish. Leaves serrated. Root-leaves heart-shaped. LINN.—Spike sometimes oblong. HUDS.

Jacq. austr. v. 437.—Barr. 525.—Riv. mon. 109. 1, lower part of the stem wanting.—H. ox. v. 5. 47.—Ger. em. 455. 5.—(J. B. ii. 810. 1, is *Campanula rotundifolia*. β.)

Blossoms purple; or bluish.

Chalky

Chalky pastures. Downs of Suffex and Hampshire. Near Leatherhead. P. July. Aug.

238. SAM'OLUS. Brookweed. (*Hill.*)

EMPAL. Cup with 5 divisions; superior; blunt at the base; permanent; segments upright.

BLOSS. 1 petal; salver-shaped. Tube open; very short; as long as the cup. Border flat; with 5 blunt divisions. Valves very short; approaching; fixed to the bottom of the clefts in the border.

CHIVES. Threads 5, short; 1 between each segment of the blossom. Tips approaching; covered.

POINT. Seed-bud beneath. Shaft thread-shaped; as long as the chives. Summit knobbed.

5. VESS. Capsule egg-shaped; of 1 cell, and 5 valves; opening half way down; bound round by the cup.

SEEDS. Many; egg-shaped; small. Receptacle large; globular.

ESS. CHAR. Bloss. salver-shaped. Chives defended by the scales of the blossom. Capsule of 1 cell; beneath.

SAMO'LUS *Valeran'di.*—

Pimpernel

Fl. dan. 198.—*Curt.* iv. 45.—*Lob. obs.* 249. 1, repr. in *Ger. em.*

620. 3, and cop. in *Park.* 1237. 5, *J. B.* iii. 792. 1, and *H.*

ox. iii. 24. 26, with the seed vessel of *Veronica.*—*ib.* 28.

Leaves oblong-egg-shaped; very entire. Blossoms white.

Round-leaved Water Pimpernell.

Marshes and moist meadows.—[In the large ditches leading from Poplar to the Isle of Dogs, opposite to Greenwich. Mr.

JONES.—Side of the brook running from the brine pit on Defford

Common, Worcestersh. Messrs. BALLARD and HOLLEFEAR.—

Lord Shelburne's Park, near Calne, Wiltsh. ST.] P. June.

Cows, Goats, and Sheep eat it. Horses refuse it.

An inhabitant of every quarter of the globe. CURT.

250. LONICE'RA.

250. LONICE'RA. Honeyfuckle.

EMPAL. Cup superior; with 5 divisions; small.

BLOSS. 1 petal; tubular. Tube oblong; bulging. Border with 5 divisions. Segments rolled backwards; 1 segment more deeply separated than the others.

CHIVES. Threads 5; awl-shaped; nearly as long as the blossom. Tips oblong.

POINT. Seed-bud beneath, roundish. Shaft thread-shaped; as long as the blossom. Summit a blunt knob.

S. VESS. Berry with 2 cells, and crowned with the cup at the top.

SEEDS. Roundish; compressed.

ESS. CHAR. Bloss. 1 petal, irregular. Berry beneath, with several seeds, and 2 cells.

Woodbind LONICE'RA *Pericly'menum*. Heads egg-shaped, tiled, terminating. All the leaves distinct.—

Curt. 1. 1.—Riv. 122.—Blackw. 25.—Fuchf. 646, cop. in Trag.

822; and J. B. ii. 104. 1.—Ger. 743. 1.—Dod. 411. 1, refr.

in Lob. obs. 358. 1, Ger. em. 891. 1, and cop. in Park. 1460. 1.

Bloss. the lower segment divided twice as deep as the rest. Stem and leaves smooth. LINN.—Stem scored. Leaves spear-egg-shaped, smooth, fitting, opposite. Heads with from 5 to 30 flowers, or more. Bloss. tube somewhat crooked, distended on the under side towards the top, beset on the outside with fine short hairs, crowned with globular glands; the lower part is a receptacle for honey. Tips yellow. Summit greenish. Bloss. red on the outside; yellowish within. Berries red. WITH.

Common Honeyfuckle. Woodbine.

Hedges.

S. May.—July.

The beauty and fragrance of its flowers renders it a pleasing ornament to our gardens, hedges, and harbours.

Cows, Goats, and Sheep eat it. Horses refuse it. *Sphinx Ligustri*, and *tipuliformis*; and *Phalæna dydaëtyla*, and *hexadaëtyla* feed upon it.*

oak-leaved β. Leaves indented. [In Sir J. Woodhouse's Woods, Norf. Mr. WOODWARD.]

* *Lonicera Xylosteum* is said by Wallis, p. 149, to grow under the Roman Wall, on the west side of Shewing Sheels, in Northumberland.

262. VERBAS' CUM. Mullein.

EMPAL. *Cup* of 1 leaf, with 5 divisions; finall; permanent; *segments* upright; sharp.

BLOSS. 1 *petal*; wheel-shaped. *Tube* cylindrical; very short. *Border* with 5 divisions, expanding; *segments* egg-shaped, blunt.

CHIVES. *Threads* 5; awl-shaped; declining; shorter than the blossom. *Tips* roundish; compressed; upright.

POINT. *Seed-bud* roundish. *Shaft* thread-shaped; inclining; as long as the chives. *Summit* rather thick and blunt.

S. VESS. *Capsule* roundish, with 2 cells, opening at the top. *Receptacle* the shape of half an egg; fixed to the partition.

SEEDS. Numerous; angular.

ESS. CHAR. *Bloss.* wheel-shaped, somewhat unequal. *Capsule* 1 cell, 2 valves.

OBS. In most of the species the *Chives* are inclining, unequal, and the bottom of the *Threads* cloathed with soft, coloured hairs.

VERBAS' CUM *Thap'sus*. Leaves running down great the stem, downy on both sides. Stem undivided.—

Blackw. 502.—*Fl. dan.* 631.—*Blackw.* 3.—(*Ger.* 629. 1 and 2. —*Math.* 1143, *cop.* in *Dod.* 143, *repr.* in *Lob. obs.* 303. 1, and *Ger. em.* 773. 1, which again *cop.* in *Park.* 60. 1, *H. ox.* v. 9. row 1. 1, and *Pet.* 62. 1. *Spikes* nodding, the drawings made from faded specimens, as when growing they are always upright.)—(*Fuchf.* 848, *cop.* in *Trag.* and *J. B.* iii. 871. 1, is the plant of *C. B.* referred by *Linn.* to the *phlomoides*.—*Ludw.* 124, has blossoms wider than the spikes; probably *V. Thapf. bicolle*, *Murr. pr.* 47?)

The whole plant woolly; in dry situations very tall. Spike club-like. LINN.—*Threads*, 2 smooth, the rest woolly. J. BAUH. ST.—*Spikes* sometimes branched, (as in the fig. of *Ger. ST.*)—*Leaves* scolloped, notches concealed by the down. *Flower-leaves* spear-shaped. *Bloss.* 2 upper segments shortest, the lowermost longest. *Threads*, 3 uppermost with a whitish beard; 2 lowermost bare. HALL. ST.—*Threads*, the two lowermost longer than the other 3. LEERS. ST.—*Flowers* sitting. MÆNCH. ST.—*Leaves*, upper ones taper-pointed. *Flower-leaves* smooth within, awl-pointed, 5 in each set of flowers; the lowermost the largest, as long as the flower; 2 pairs above, of which the lowermost the smallest. *Flowers*

4 in a set, with a minute rudiment of others at the base of each flower-leaf; the *lowermost* between the lowermost pair of flower-leaves, which blossoms the second; the *lateral ones* at the base of each of the upper flower-leaves; and the *uppermost* above them, which blossoms first. *Bloss.* bright yellow, from 10 lines to 1 inch 2 lines in diameter. *Threads*, the 2 *lowermost* with a few hairs from about the middle. *Tips* bright orange. *Capsule* egg-shaped, blunt. *Down* thread-shaped, with several sets of lateral simple-pointed branches, and terminated by a set expanding starwise. ST.—*Verbascum Thapsus*. POLLICH.—Seems a variety with larger blossoms. “*Flowers* somewhat more than $1\frac{1}{2}$ inch in diameter,” accords with those of *Ludw.* 124. See also *Willich in Reich. Jyll. p.* 91. ST.—*Leaves* egg-spear-shaped. *Shaft* woolly towards the base. *Bloss.* in a long terminating spike, yellow. WITH.

Great White Mullein. High Taper. Cows Lungwort. Ladies Foxglove.
Dry ditch banks, in chalky and gravelly soil. B. July.

Externally used it is emollient. Dr. Home advises a decoction of it, 2 ounces to a quart, in diarrhoeas of an old standing: he gave a quart every day. *Clin. Exp. p.* 439. it eases the pains of the the intestines; is used as an injection in tenesmus with advantage; and is often applied externally to the piles. *ib.*—It is said to intoxicate fish so that they may be taken with the hand.—In Norway they give it to cows that are consumptive.—The down serves for tinder. Neither Cows, Goats, Sheep, Horses, or Swine will eat it.—The *Phalena Verbasci*, and the *Curculio Scrophularia*, live upon it.

whiteflower'd 2. Bloss. white. Mr. STONE.

bastard VERBAS'CUM *Thapsoides*. Leaves running down the stem. Stem branched.—

Fuchf. 846, *cop. by Dod.* 143. 2, *Ger. em.* 773. 2, and *J. B.* iii. 872. 4.

A hybrid plant, produced in the gardens of Upsal, in the year 1761, from the seeds of the *V. Lychnitis*, impregnated by the dust of the *V. Thaps.* both which grew in the same bed. Seen long ago by Agerius, who sent it to J. Bauh. from whom succeeding authors have copied it. Agrees with *V. Lychn.* in its branching stem; its *flowers*, and also tho' less so in the purple hairs of the *threads*; & with the *V. Thaps.* in size, in its *leaves*, which run down the stem, though not all the way, and which are not so white; in its *empal.* which, however, have longer *fruit-stalks*, tho' not so long as those of the *V. Lychn.* In a word, it is not a distinct species, but rather a variety of *V. Lychnites*. LINN.

Chalky and sandy meadows and pastures, in Kent. HUDS.

B. July. Aug.

VERBAS'CUM

VERBAS'CUM *Lychu'tis*. Leaves wedge-oblong. *hoary*
 LINN.—Root-leaves sometimes wedge-oblong, but most commonly
 oblong-spear-shaped. ST.

Stem panicked. Leaves spear-shaped, the lower ones tapering
 down into leaf-stalks. Fruit-stalks crowded, undivided. LINN.—
 Stem branching. Leaves on short leaf-stalks; the upper fitting.
 HALL. Mr. WOODWARD. B. July.

α. pulverulentum. Mr. WOODWARD. ST.—Whole plant covered *duffy*
 with a mealy down. SCOP. Mr. WOODWARD. ST.—Lower-leaves
 imperfectly notched; the upper egg-spear or egg-shaped. Mr. W.
 ST.—Down easily rubbing off. RAY. ST.—Blossoms sprinkled
 with glandular globules. ST.

γ. B. iii. 873. 1.

When a part of the down falls off, what remains gives the plant
 the appearance of having been sprinkled over with powder. Stem
 4 to 5 feet high. Leaves, the upper sometimes embracing the stem;
 uppermost more and more pointed, and at length taper-pointed.
 Bloss. yellow. Mr. WOODWARD. ST.—Leaves, the upper egg-shaped,
 or oblong, ending suddenly in a finely tapering point. Down of
 a clear white, flock-like, equally thick on each side of the leaf,
 readily coming off on passing the leaf or stem between the finger
 and thumb; viewed in the microscope appears to be composed of
 distinct hairs beautifully branched. Bloss. to $7\frac{1}{2}$ lines in diameter,
 with little or no down upon it. ST.

About Norwich. RAY [and Mr. PITCHFORD.—Very common
 in Norfolk. Mr. WOODWARD.]—Bury, and Wollerton, Nor-
 thamptonshire. RAY.

Neither Cows, Goats, Sheep, Horses, or Swine will touch it.

β. album. ST. Lower-leaves nearly smooth above, downy under *whiteflower'd*
 underneath, deeply notched; the upper spear-shaped; the uppermost
 strap-spear-shaped. Mr. WOODW. ST.—Down adhering firmly
 to the leaf; sometimes rather woolly than downy underneath. ST.

Ger. 631. 1, cop. in Pet. 62. 4.—Fuchs. 847, cop. in γ. B. iii. 873.

2.—Matth. 1147, cop. in Lob. obs. 303. 2, repr. in Ger. em.

775. 3, and cop. again in Ger. 632. 3.—Fl. dan. 586.—A branch,
 &c. Fl. dan. 586.

Threads equal, woolly. LEERS.—Lower-leaves of a darkish green.
 J. BAUH. ST.—Bloss. small, white. J. BAUH. Mr. WOODW. ST.
 —Stem seldom more than 3 feet high. Fruit-stalks longer than in *α*.
 Mr. WOODW. ST.—Lower-leaves of a pleasant green, their upper
 surface shining. Mr. WOODWARD.—The differences noted above
 were the result of a comparison of *α* growing wild, with *β* culti-
 vated, though, I very much doubt, whether they can be thought
 sufficient to establish a specific difference between them. Mr. W.

—*Stem, branches, fruit-stalks, and empalement covered with a close short down. Leaves slightly downy, and often smooth. POLLICH. ST.*—*Leaves* thicker than those of α ; the *lower* betwixt toothed and notched; the *upper* with a degree of downiness on the upper surface; in all the native specimens covered underneath with a close compact down, which renders them opaque; in the cultivated specimens rather woolly (*villosa*) and readily admitting the light through them. *Down* of a dirty white, close, short, may be scraped off by the nail; but not by passing it between the finger and thumb. *Flowering-branches* numerous, scattered, open, shorter than the stem. *Flowers* thick set, on fruit-stalks, bundled. *Bloss.* dirty white, and on drying changes to a reddish white; $5\frac{1}{2}$ lines in diameter; *segments* oblong, inversely egg-shaped; the lower gradually smaller, sprinkled above, and especially underneath, with a down, but no glandular globules. *Threads* yellowish white; all bearded with long hairs; club-shaped at the end. *Tips* and *dust* saffron-colour. *Shaft* broken back at a very obtuse angle, beset with down at the base. I believe them to be distinct species, but, I must at the same time own, that of the *pulverulentum*, I have seen only dried specimens. In Lord Stamford's pleasure ground, at Enville, is a plant corresponding in all respects with the above descriptions, except that the blossoms are pale yellow, with glandular dots on the under surface. I believe it to be a real variety of the *album*. Ray accordingly in his *Cat. plant. exterrar.* speaks of white and yellow having risen from the seed of the same plant. ST.

Verbascum album. MILL. according to Reich. but Mill. characterises it, "Leaves heart-oblong." ST.

Chalky and sandy meadows and pastures, road sides, Kent.—[Has never been found in Norfolk. Mr. WOODWARD.—On the ramparts of Brussels, and there the *pulverulentum* is not to be found.—Enville, near the Rock Houses. ST.]

black VERBAS'CUM *ni'grum*. Leaves heart-oblong, on leaf-stalks.—

Fuchs. 849; *cop. in Dod.* 144. 1, *J. B.* iii. 873. 3, and imitated in *Trag.* 218.—*Ger.* 631. 2.—(*Ger. em.* 775. 2.—*H. ex. v.* 9. row 2. 5, only upper-leaves)—(*Matth.* 1145, more branched than I have ever seen it.)

Leaves notched, downy underneath. *Stem* angular. *Spike* loose, sometimes branched. LINN.—*Leaves* wrinkled; the *upper* egg-spear-shaped, pointed. HALL. ST.—*Leaves* (the lower) doubly notched. *Threads*, all bearded. SCOP. ST.—*Flowers* on fruit-stalks, bundled. *Leaves* gradually smaller upwards; the uppermost nearly sitting. POLLICH. ST. W.—*Stem* beset with scattered down; angles more numerous

numerous upwards, being continuations of the edges of the leaf-stalks tinged of a dirty purple. *Down* jointed, with simple awl-shaped branches from the joints; that on the flowers forked. *Flowers* from 5 to 9, but generally 7 in a set, with rudiments of others, but seldom more than 4 come to perfection, blooming in the same order as those of the *V. Thapsus*. *Fruit-stalks* as long as the flowers, lying to the stem, becoming longer during blooming; sometimes, though rarely, with 2 or 3 flowers. *Flower-leaves*, 3 to each set, the lowermost the largest, the uppermost awl-shaped. *Bloss.* from 8 lines to 1 inch diameter, pale yellow; tube and edges of the mouth with pointed blotches of brownish purple. *Threads* from the middle to near the point purple, and generally beset with purple hairs, above and below tawny, but in some plants there are no hairs, or only 1 or 2 scattered ones to be seen; the uppermost the shortest, the rest gradually longer downwards. *Hairs* slightly club-shaped at the end. *Dust* deep orange. In habit very much resembles the *Digitalis purpurea*. *ST.*—*Leaves* heart-spear-shaped, not doubly scolloped; the lower on short broad leaf-stalks. *Flowers* about 7 in a set. *Spike* long, but not very compact. *Tips* yellowish scarlet. *Seed-bud* woolly. *Shaft* thickest towards the top. *Summit* green, not extending down the shaft. *WITU.*

Hedges and road sides. [Road sides, sandy soil, Suffolk. Mr. WOODWARD.—At Hamstead, betwixt Birmingham and Walsall. *WITH.*] P. July.—Sept.

A beautiful plant. The flowers are grateful to bees.

Swine will eat it. Sheep are not fond of it. Cows, Horses, and Goats refuse it.

VERBAS'CUM *virga'tum*. Downy. Root-leaves *rodlike* somewhat lyre-shaped; stem-leaves sitting. Stem branching. Fruit-stalks several together, sitting.* *ST.*

J. B. iii. 875. 1.?

Stem stronger and longer than *V. Blattaria*. *Bloss.* gold-coloured. *veff.* round, 2, 3, or more together, but most usually 1. *PARK.* *ST.*—*Whole plant* beset with very short hairs; *hairs* numerous, straight, whitish, with globular heads, which wither away. *Root* branched, slanting, biennial, whitish, bitter. *Stem* upright, from 5 to 6 ft. high, branching from the bottom, round, marked with superficial angles from the edges of the leaves running down the stem, and of a woodlike hardness below. *Branches* undivided, long,

Q 2

* Pubescens, foliis radicalibus sublyratis, caulinis sessilibus, caule ramoso, pedunculis aggregatis sessilibus. *ST.*

long, rodlike, alternate, solitary, leafy below, beset with flowers to the length of 2 feet and upwards. *Root-leaves* a good deal resembling those of the *Common Primrose*, spear-shaped-oblong, wing cleft-scolloped towards the base, unequally and doubly notched, wrinkled; above somewhat glossy, with scattered hairs; *underneath* venous; and woolly; veins hairy; the hairs generally forked, and dotted with minute black dots, which, when viewed with a lens, by transmitted light, appear semi-transparent. *Lower stem-leaves* oblong-spear-shaped, or egg-oblong-spear-shaped, notched, and some of the lowermost scolloped towards the base, narrowing down into very short leaf stalks. *Upper stem and branch-leaves* egg-shaped; or oblong-egg-shaped, toothed, not serrated as in *V. Boerh.* and *Blatt.* fitting; not embracing the stem as in *V. Blatt.* *Flower-leaves* egg-shaped, gradually diminishing, the uppermost spear-shaped, and at length becoming a kind of flower-scales. *Flowers* nearly fitting; in small clusters from the sides of the stem and branches, at moderate intervals; but in plants whose main stem has been injured they sometimes appear solitary, but, on examination, the rudiments of others will be found at the base of each. *Flower-scales*, one at the base of each flower, the outermost egg-shaped, taper-pointed, or spear-shaped, rather shorter than the flower; the *inner* ones spear-shaped, the length of the *empal.* *Empal. segments* spear-shaped, expanding, as soon as the blossom is fallen closing up, the upper one smaller than the rest. *Bloss.* with a purplish ring round the mouth; $1\frac{1}{4}$ inch diameter; 2 or 3 in bloom at once. *Fruit-stalks* horizontal, very short, seldom more than half the length of the empalement, the upper part of the outside and round the tube beset with hairs tipped with glands. *Threads* purplish on one side; and yellowish on the other; bearded with thread-like hairs club-shaped at the joints, which, in the upper one, are whitish, in the rest purple. *Seed-bud* beset with very short white hairs tipped with glass-shaped glands. *St.*

Blattaria lutea major, five, Hispanica. Park. 64, and par. 383.—Blattaria lutea fol. long. laciniato altera 4 cubitorum, 3, 4, 5, et plura vascula conjuncta habens. C. B. pin. 240.?—Blattaria magno flore. C. B. pin. 241. J. B. iii. 875. R. hist. 1096. Tourn. 148.—(Not Ger. em. 773. 5, cop. in J. B. iii. 875. 1, leaves too pointed.)

Hedge banks, in gravelly soil. [First shewn me by my late worthy friend Mr. Waldron Hill, of Worcester, in a field on the S. side of a lane leading from Gregory's Mill to the turnpike road, near that town. The side of the turnpike road from Worcester to Ombersley, opposite to the lane leading to Beverley; and cultivated for the last 3 years at my request by Mr. Brunton, in his nursery at Perry Hill, near Birmingham, without any perceptible alteration.

alteration. It is cultivated also in the King's Garden, at Paris, where I pointed it out to my learned and ever to be regretted friend, LINNÆUS THE SON, who assured me it had not been described in his father's works. ST. B. Aug.—Nov.

VERBAS'CUM *Blatta'ria*. Leaves embracing the *moth* stem, oblong, smooth. Fruit-stalks solitary. LINN.—Leaves serrated. HALL. ST.

Fuchf. 183, *cop. in Trag.* 925, and *J. B.* iii. 874. 1.—*Ger. em.* 778. 7, *cop. in Park.* 64. 3.—*Ger.* 633. 1, *the best leaves.*—*Matth.* 1151, *cop. by Dod.* 145. 1, *repr. in Lob. obs.* 304. 2, and *Ger. em.* 776. 1; *which cop. in Park.* 61. 5, *Pet.* ii. 62. 5, and *H. ox.* v. 9. row 3. 5.—*Swert.* ii. 39. 4, *bad.*—(*Zanon.* 34. 1, *is Celsia orient.*—*Dod.* 145. 2, *is V. phœnic.*)

Upper part of the plant sprinkled with hairs secreting a glutinous matter. LINN.—Leaves heart-spear-shaped, smooth, wrinkled; uppermost egg-spear-shaped, embracing the stem. Upper part of the stem and empalements hairy; hairs knobbed at the ends. *Bloss.* yellow. *Capsule* spherical. HALL. ST.—Stem 2 to 3 feet high, slightly angular, smooth. Leaves somewhat wrinkled. A short spear-shaped flower-leaf at the base of each fruit-stalk. POLLICH. ST.—Threads bearded with club-shaped hairs. SCOP. ST.—Leaves glossy on the upper side; sometimes toothed, and sometimes notched; lowermost with winged clefts at the base. Fruit-stalks longer than the flower-leaves. Threads, 3 uppermost bearded from the base to the tips, uppermost hairs whitish; 2 lowermost bearded from the base to a little above the middle. Seed-bud covered with sitting globular glands. ST.

Obs. The genus *Blattaria* of Ray, Tourn. and the old authors, though very properly combined by Linnæus with the *Verbascum*, forms a kind of natural sub-division of the genus, consisting of *V. phœnic.* *Blattaria*, and *Virgatum*. *Capsule* globular. Hairs of the stem and leaves tipped with globular heads. In the true *Verbascums*, *Capsule* egg-shaped. Hairs branching. ST.

Yellow Moth Mullein.

Gravelly soil. Lane between Mitcham Common and Calfaton, Horns Place, near Rochester, between Deptford and Greenwich. RAY.—And about Plymouth. HUDS.

My specimens from gardens, and having never seen it growing wild, I have been sometimes induced to suspect my *virgatum* to have been taken for the true *V. Blattaria*. ST. A June. July.

263. DATU'RA. Thorn-apple.

EMPAL. *Cup* 1 leaf; oblong; tubular; distended; with 5 angles and 5 teeth; falling off, but leaving a part of the base behind.

BLOSS. 1 *petal*; funnel-shaped. *Tube* cylindrical; generally longer than the cup. *Border* not quite upright, almost entire; with 5 angles, 5 tapering teeth, and 5 plaits.

CHIVES. *Threads* 5; awl-shaped; as long as the cup. *Tips* oblong; blunt; compressed.

POINT. *Seed-bud* egg-shaped. *Shaft* thread-shaped; straight. *Summit* thick, blunt, composed of 2 flat plates.

S. VESS. *Capsule* nearly egg-shaped; with 2 cells and 4 valves; standing upon the remains of the cup. *Receptacle* large; convex; dotted; fixed to the partition of the capsule.

SEEDS. Numerous; kidney-shaped.

ESS. CHAR. *Bloss.* funnel-shaped, plaited. *Empal.* tubular, angular, falling off. *Capsule* 4-valved.

common DATU'RA *Stramonium*. Seed-vessel thorny, upright, egg-shaped. Leaves egg-shaped, smooth. LINN.—Leaves indented (sinuatis.) ST.

Stoerck.—*Fl. dan.* 436.—*Clus. exot.* 289, repr. in *Ger. em.* 348.

2.—*Blackw.* 313.—*Cól. phytob.* 12.—(The references to the old authors in the *Germ. synon.* belong to *Datura metel.*)

At night the leaves, particularly the upper ones, rise up and inclose the flowers. *Bloss.* white, with sometimes a tinge of purple, or violet.

Amongst rubbish, and on dunghills. [Tritton Heath, Suffolk. Mr. WOODWARD.]—A native of America, but now naturalized in Europe. LINN. A. July.

An ointment prepared from the leaves gives ease in external inflammations and Hæmorrhoids. The Edinburgh College direct an extract to be prepared by evaporating the expressed juice of the leaves. This has been given with great advantage in convulsive affections and epilepsies. Out of 14 epileptic patients, 8 were entirely cured by it, at Stockholm. The dose from 2 to 16 grains a day. *Med. Comm.* i. 368. iii. 22. See also *Lond. Med. Jour.* ii. 295. The seeds or leaves given internally bring on delirium, tremors, swelling, itching, eruption, and inflammation on the skin: these effects

ffects were produced by a dose of a dram and a half in a girl 9 years old. See Dr. Fowler's account, *Med. Comm. vol. 5, p. 164.* Cows, Goats, Sheep, and Horses refuse it.

264. HYOSCY'AMUS. Henbane.

EMPAL. *Cup* 1 leaf, tubular; distended in the lower part. *Rim* with 5 clefts; sharp; permanent.

BLOSS. 1 *petal*, funnel-shaped. *Tube* cylindrical; short. *Border* not quite upright; with 5 shallow clefts. *Segments* blunt, 1 broader than the rest.

CHIVES. *Threads* 5; awl-shaped; inclining. *Tips* roundish.

POINT. *Seed-bud* roundish. *Shaft* thread-shaped; as long as the chives. *Summit* somewhat globular.

3. VESS. *Capsule* egg-shaped; blunt; marked with a line upon each side; of 2 cells, formed by 2 capsules closely pressed together, but cut round, and with a lid opening horizontally. *Receptacle* half egg-shaped, fixed to the partition.

SEEDS. Numerous; unequal.

ESS. CHAR. *Bloss.* funnel-shaped; blunt. *Chives* inclining. *Capsule* 2-celled, with a lid.

HYOSCY'AMUS *ni'ger*. Leaves embracing the common stem, indented. Flowers sitting.—

Ludw. 85.—*Chuf.* ii. 83, repr. in *Dod.* 450. 1, *Lob. obs.* 139. 1, *Ger.* 283. 1, and *Ger. em.* 353. 1, and rudely cop. in *Park.* 362.

1.—*Blackw.* 550.—*Riv. mon.* 102.—*Stoerck.*—*H. ox.* v. 11. row 2. 1.—*Matth.* 1064.—*Fuchf.* 833, cop. in *J. B.* iii. 627.

1.—*Trag.* 133.—(*Variety* β of the *Germ.* synonym, is *H. reticulat.*)

Flowers on very short fruit-stalks. **Mr. HOLLEFEAR.**—*Empal.* hairs soft, long, and matted with those of the flower next below and above it. *Bloss.* irregular, gradually tapering down into a tube, with 5 prominent ribs on the outside; the upper segment the largest, the rest gradually diminishing downwards; the upper incisions shallow, the lowermost extending half way to the base, and much wider than the rest. *Threads* white, with soft hairs below; the uppermost the shortest, those below gradually increasing in length. *Empal.* becoming rigid, and the capsules continuing on the dead plant till the plants of the next year are in blossom; when the leaves being fallen off the fruit appears in bunches pointing 1 way, in 2 rows from 1 side of the branch. **ST.**—Whole plant woolly and clammy. *Empal.* woolly at the base, a little distended on the

under side, smooth within. *Bloss. tube* white, with the middle deep purple; *border* pale yellowish brown, beautifully veined with purple. *Threads* woolly, unequal in length. *Tips* deep purple, of 2 cells. *Dust* white. *Shaft* of a fine purple. *Summit* white. WITH.

Villages, road sides, and amongst rubbish, not uncommon.

B. LINN. ST.—A. HUDS. June.

The seeds, the leaves, and the roots, taken internally, are all poisonous; and many well attested instances of their bad effects are recorded. Madness, convulsions, and death, are the general consequence. WITH.—I have often eaten the seeds of this plant with impunity. DR. SMITH.—In a smaller dose they occasion giddiness and stupor. It is said that the leaves scattered about a house will drive away mice. The Edinburgh College order the expressed juice of the plant to be evaporated to an extract; and perhaps in this state it may be advantageously joined with opium, where the effects of that medicine are desirable, and costiveness is to be avoided. There is no doubt of its being an useful medicine under proper management. The dose is from half a scruple to half a dram.

Goats are not fond of it. Horses, Cows, Sheep, and Swine refuse it. LINN.—Sheep sometimes eat it when young. MR. BALLARD.—*Chrysomela Hyoscyami*, and the *Cimex Hyoscyami*, are found upon it.

266. AT'ROPA. Dwale.

EMPAL. *Cup* 1 leaf; permanent; with 5 divisions; bulging. *Segments* pointed.

BLOSS. 1 *petal*; bell-shaped. *Tube* very short. *Border* distended; egg-shaped; longer than the cup. *Mouth* small; with 5 clefts; open. *Segments* nearly equal.

CHIVES. *Threads* 5; awl-shaped; from the base of, and as long as the blossom; approaching at the base, but bowed outwards, and diverging towards the top. *Tips* rather thick; rising.

POINT. *Seed-bud* half egg-shaped. *Shaft* thread-shaped; inclining; as long as the chives. *Summit* knobbed; transversely oblong; rising.

S. VESS. *Berry* of 2 cells; globular; fitting upon the cup, which enlarges. *Receptacle* fleshy; kidney-shaped; convex on both sides.

SEEDS. Numerous; kidney-shaped.

ESS. CHAR. *Bloss. bell-shaped. Chives distant. Berry globular, 2-celled.*

AT'ROPA *Belladonna*. Stem herbaceous. Leaves *deadly* egg-shaped; entire.—

Ludw. 128.—*Jacq. austr.* iv. 309.—*Fl. dan.* 758.—*Sheldr.* 101.

—*Mill.* 62.—*Clus.* ii. 86. 1, repr. in *Dod.* 456. 1, *Lob. obs.*

134. 2, *Ger. em.* 340, and cop. in *Park.* 346. 6, *Ger.* 269, and

H. ox. xiii. 3. 4.—*Blackw.* 564.—*Matth.* 1073.—*J. B.* iii.

611. 1.—*Fuchs.* 689, cop. in *J. B. ib.* 2.—*ib.* 3.—*Trag.* 301.

Stem zigzag. Leaves not evidently hairy. *Empal.* segments, 2 smaller than the rest, not evidently bulging. *Bloss.* ribbed. *Threads* with white hairs at the base. *Tips* white. *Summit* green. *Seeds* rough, dotted. *Berry*, first green, then red, and at length black.

WITH.—Blossoms dark purple.

Deadly, or sleepy Nightshade. Dwayberries.

Hedges, amongst limestone and rubbish. [St. Faith's, Newton, near Norwich, and in Herts, frequent. Mr. Woodw.—Dudley Castle, WITH. ST.—Yard of Lautony Abbey, near Gloucester. Mr. BALLARD.—Hardwicke Park, Derbyshire. ST.]

P. June.—Aug.—Fruit ripe from Aug. to Oct. ST.

The whole plant is poisonous; and children, allured by the beautiful appearance of the berries, have too often experienced their fatal effects. Buchanan, the Scotch Historian, gives an account of the destruction of the army of Sweno, when he invaded Scotland, by the juice of these berries being mixt with the drink, which the Scots, by their truce, engaged to supply them with. The Danes became so intoxicated, that the Scots fell upon them in their sleep, and killed the greatest part of them; so that there were scarcely men enough left to carry off their King. Whatever credit is due to this story, there is no doubt but those who eat the berries are attacked with stupor or delirium, and become variously convulsed, and that death is the certain consequence, if not prevented by timely and plentiful vomiting, so as to evacuate the poison. WITH.—Miller recommends drinking a large glassful of warm vinegar, and I am inclined to accede to the propriety of this remedy, or rather to recommend the swallowing plentifully of repeated draughts of a tea spoonful of spirits of hartshorn, taken in a large glass of brandy and water, as these narcotics frequently diminish the irritability of the stomach, so far as to render it insensible to the operation of vomits. ST.—Tumours of the breasts, even of the cancerous kind, are said to have been resolved by a topical application of the fresh leaves. Dr. Graham, in the *Med. Communicat.* vol. i. p. 419, says, he found great benefit from
a poul-

a poultice made of the roots, boiled in milk, and applied to hard ill-conditioned tumours and ulcers; and relates a deplorable case, in which this poultice effected a perfect cure. The powdered root has been given in doses of 10 or more grains every other night, as a preventative after the bite of a mad dog. *Lond. Med. Journ. vol. iii. p. 199.* There is no doubt but their external application may be productive of good effects in several cases, but the following instance shews us that their application is dangerous when the skin is broken: .

A lady, who had a small ulcer a little below one of her eyes, which was supposed to be of a cancerous nature, put a small bit of the green leaf upon it. In the morning the uvea of that eye was so affected that the pupil would not contract, even in the brightest light; whilst the other eye retained its usual powers. The leaf being removed, the eye was gradually restored to its former state. This could not be an accidental effect, for it was repeated three separate times, and the same circumstances attended each application. *Ray. hist. 680.*—In the *Phil. Trans. vol. 50. p. 77*, there is a well attested case of a woman cured of a cancer in her breast by taking a tea-cup full of an infusion of the dried leaves every morning. The complaint became worse at first, but afterwards the symptoms abated, and in 6 months she was perfectly well. The infusion was made by pouring 10 tea-cups full of water upon 20 grains of the dried leaves, letting it stand all night in a warm place. It hath since been tried in our hospitals, with the effect of mitigating the symptoms, but hardly ever perfecting a cure. Mr. Gattaker gives the preference to the *Solanum nigrum* in these cases, as he found that to increase the secretions, and produce similar good effects, without affecting the nervous system so disagreeably as this generally does. *See his Treatise on the Nightshade.*—The juice of the ripe berries stains paper of a beautiful and durable purple. WITH.

268. SOLA'NUM. Nightshade.

TEMPAL. *Cup* 1 leaf; permanent; with 5 shallow clefts; sharp; upright.

BLOSS. 1 petal; wheel-shaped. *Tube* very short. *Border* large; plaited; with 5 shallow clefts; turned back and flat.

CHIVES. *Threads* 5; awl-shaped; very small. *Tips* oblong; approaching so as to touch; with 2 open pores at the end.

POINT. *Seed-bud* roundish. *Shaft* simple; longer than the chives. *Summit* blunt.

S. VESS. *Berry* roundish, glossy; with a hollow dot at the end; and 2 cells. *Receptacle* convex on both sides; fleshy.

SEEDS. Several, roundish, dispersed among the pulp.

ESS. CHAR. *Bloss.* wheel-shaped. *Tips* almost uniting, opening at the point by 2 pores. *Berry* 2-celled.

SOLA'NUM *Dulcamara*. Stem without prickles, woody somewhat shrubby, zigzag. Upper-leaves halberd-shaped. Bunches tuft-like.—

Ludw. 58.—*Curt.* i. 1.—*Fl. dan.* 607.—*Blackw.* 34.—*Dod.* 402.

2, repr. in *Lob. obs.* 136. 4, *Ger. em.* 350, and cop. in *Park.*

350.—*Ger.* 279. 1.—*Trag.* 816.—*Matth.* 1281, cop. in *J. B.*

ii. 109. 2.

Stems twining. *Leaves* egg-spear-shaped; the upper sometimes, not always halberd-shaped. *Bloss.* deeply divided; segments spear-shaped, with 2 green spots at the base of each. *Tips* on the 1st opening of the blossom readily separable, but afterwards growing dryer, they sooner tear than be disjoined. *Berry*, the hollow not very conspicuous. WITH.—*Bloss.* purple, and berries scarlet.

CURT.—*Bloss.* sometimes flesh-coloured.

Bitter-sweet.

Moist brakes, hedges, and sides of ditches. P. June. July.

2. Leaves hairy. HUDS.

sea

Sea coast. RAV. and HUDS.

3. Bloss white. HUDS.

whiteflower'd

Boerhaave says it is a medicine far superior to China and Sarsaparilla as a sweetner and restorative. Linnæus says an infusion of the young twigs is an admirable medicine in acute rheumatisms, inflammations, fevers, and suppression of the lochia. Dr. Hill says he has found it very efficacious in the asthma. Doctor Hallenberg

Hallenberg advises it in ischiatic and rheumatic pains, jaundice, scurvy, and lues venerea. He directs a pint of boiling water to be poured upon 2 drams of the stalks sliced and dried, after standing half an hour, it must be boiled 15 minutes. The dose 2 tea-cups full or more, morning and evening. The stalks may be gathered early in the spring, or at the end of autumn. *Med. Comm.* vol. 3. p. 15.—The root has the smell of the potatoe. Mr. BEDDOES.

Sheep and Goats eat it. Horses, Cows, and Swine refuse it.

garden SOLA'NUM *nigrum*. Stem without prickles, herbaceous. Leaves egg-shaped, toothed, angular. Bunches nodding, pointing 2 ways.—

Ludw. 172.—*Curt.* ii. 16.*—*Fl. dan.* 460.—*Sheldr.* 106.—*Blackw.* 107.—*Dod.* 454. 1, repr. in *Lob. obs.* 133. 2, *Ger. em.* 339. 1, and cop. in *Park.* 346. 1, and *H. ox. a.* xiii. 1. row 1. 1.—*Matth.* 1069.—*Ger.* 268. 1.—*Fuchf.* 686, cop. in *J. B.* iii. 6. 608.—*Trag.* 303.

Stem angular, roughish, branching from the base. Leaves running down the leaf-stalk. Fruit-stalks from the sides of the stem and branches, without any leaf at the base. POLLICH. ST.—Arising from the middle of the joint. CURT, ST.—Bloss. white. Berries black,

Common Nightshade,

Amongst rubbish, and on dunghills.

A. June.—Oct.

From 1 to 3 grains of the leaves infused in boiling water, and taken at bed-time, occasions a copious perspiration; increases the secretion by the kidneys, and generally purges more or less the following day. These properties, judiciously applied, render it capable of doing essential service in several diseases, as may be seen in Mr. Gattaker's Treatise on the Solanum. But its effects on the nervous system are so uncertain, and sometimes so considerable, that it must ever be administered with the greatest caution. The leaves externally applied abate inflammation, and assuage pain. The flowers smell like musk.

Horses, Cows, Goats, Sheep, and Swine refuse it.

* Corresponds with the "*S. nigrum virginicum* = Linn. with the branches "angular, toothed; leaves serpentine at the edge, smooth;" and figured by *Dill.* t. 275. f. 256. Possibly indigenous to Great-Britain as well as America, or rather, perhaps, naturalized in the environs of the metropolis, from the refuse of gardens. ST.

275. CHIRONIA. Centory.

(Centaurium minus. Tourn. 48. ST.)

EMPAL. Cup 1 leaf, with 5 divisions, permanent; little leaves oblong, upright, pointed.

BLOSS. 1 petal; equal. Tube narrower. Border with 5 divisions, expanding; segments egg-shaped, equal.

CHIVES. Threads 5; broad; short; growing from the top of the tube. Tips oblong; upright; large; approaching; spirally twisted when their dust is shed.

POINT. Seed-bud egg-shaped. Shaft thread-shaped, a little longer than the chives, declining. Summit knobbed, rising up.

S. VESS. Egg-shaped; 2-celled.

SEEDS. Numerous; small.

ESS. CHAR. Bloss. wheel-shaped, (rather funnel or salver-shaped; see generic description. ST.) Point. declining. Chives inserted into the tube of the blossom. Tips at last spiral. Seed-vessel of 2 cells, (of 1, see below. ST.)

OBS. Linn. in his *fl. lapp.* p. 62. gives us reasons for uniting the *Centaurium minus* of Tourn. to the *Gentiana*; but the subsequent establishment of the Genera *Chironia* and *Chlora*, the individuals of which Tourn. had referred to his *Centaurium minus*, may be regarded as a tacit recantation of that opinion. *Chironia* and *Chlora* agree in the structure of their fruit, but differ in that of the empalement. ST.

CHIRONIA *Centaurium*. CURT. Mr. WOODW. common
ST. Herbaceous. Leaves oblong spear-shaped segments of the empalement awl-shaped, shorter than the tube of the blossom. ST. *

Curt. iv. 42.—*Fl. dan.* 617. *Walc.*—*Sheldr.* 82.—*Fuchs.* 387, *cop. in J. B.* iii. 353. 2.—*Matth.* 655, the closed blossoms excellent, the expanded too blunt.—*Dod.* 336, repr. in *Lob. obs.* 218, *Ger. em.* 547. 1; and *cop. in Park.* 272. 1.—*Blackw.* 452.—*Trag.* 140.—*Ger.* 437.—*H. ox.* v. 26, row 1. 5.

Bloss. with sometimes only four clefts, and segments pointed.

HEDS.—Stem from four inches to a foot, and in a specimen on the sea coast, $\frac{3}{4}$ inches high, often branching out some way above

* Herbacea, foliis lanceolato-oblongis, calycinis laciniis subulatis tubo corollae brevioribus. ST.

above the root; branches upright, simple; and sometimes branching all the way to the top. *Flower-Leaves* strap-shaped. *Flowers* in a kind of rundle, solitary, almost sitting, one at each division of the rundle. *Bloss.* shrivelling, salver-shaped when fully expanded; *tube* 1-3d longer than the empalement, slightly coloured; *border* generally closed, except in clear fair weather, plaited at the base, the fissures being keeled on the outside, and the segments on the inside. *Chives* shorter than the blossom; *threads* awl-shaped; *tips* egg-oblong, upright, and after they have shed their dust strap-shaped, and twisted spirally from right to left. *Seed-bud* green, smooth, with a longitudinal furrow on each side. *Shaft* as short again as the threads, cloven half way down. *Summits* 2, on short pedicles, nearly orbicular, greenish-yellow. *Caps.* oblong, round, marked with a furrow on each side; of 2 valves, readily separating into 2 halves, but of only one cell, the edges of the valves being turned inwards, but not so far as to meet, as in *Chlora*. *Seeds* roundish. Compare the above description with the *Chironia*. How exactly do they correspond! or rather they seem to be the same. The *Chironia* indeed is described with a capsule of 2 cells. Linnæus however appears to have examined only dried specimens, and in one species at least, the *Chironia frutescens*, there is also only *one* cell, which induces me to suspect that in the other species it must be the valves being rolled inwards, that has induced Linnæus to describe them as having *two*. *ST.* Notes, Oct. 1775, and Ap. 1777.—The declining *Summit*, and twisted *Tips*, correspond with the Genus *Chironia*. *MR. WOODWARD.*—*Stem* with 4 or 6 edges. *Root-Leaves* wedge-shaped; *stem-leaves* opposite, sitting, spear-shaped, smooth. *Empal.* adhering to the tube of the bloss. *Bloss.* funnel-shaped; *tube* cylindrical, skinny, yellowish, longer than the empal. adhering to the seed-bud; *border* pink-coloured, with 5 spear-shaped segments, lapping over each other. *Threads* white, fixed to the top of the tube. *Tips* yellow, twisting into a spiral after shedding their dust. *Shaft* cylindrical, cloven at the top, and divisible without much force all the way down. *Summits* 2, shaped like a horse-shoe, yellowish green. *WITH.* *Lesser Centory.*—Barren pastures. A. June.—Aug. Extremely bitter. It is the basis of the famous Portland Powder, which prevents fits of the gout, when taken in a large quantity, and a long time together; but brings on hardness of the liver, palsy, and apoplexy. A tincture of the leaves, and the upper part of the root, is a good medicine in weak stomachs and cachectic habits. A decoction of the whole plant destroys lice, and cures the itch.—Cows are not fond of it. *LINN.* and in sheep pastures it is frequently left untouched. *ST.*

β LINN. Stem very short, and very much branched. GER. prov. ST.

Vaill. 6 1. a more characteristic representation of the species than any of the above.

3. Blossoms white. RAY. ST. *Centaureum minus flore albo.* B. iii. 353.

Nigh Cartmal medicinal well, Lancash. RAY.—[And Upper Battenhall, near Worcester. ST.]

284 RHAM'NUS. Buckthorn.

EMPAL. Cup none; except the blossom be considered as such.

BLOSS. 1 petal; funnel-shaped; closed at the base. rough outwardly, but coloured within. Tube cylindrical; turban-shaped. Border expanding; divided; sharp; 5 Scales, 1 at the base of each division of the blossom, approaching inwards.

CHIVES. Threads as many as the segments of the blossom; awl-shaped; growing upon the blossom under the scales. Tips small.

POINT. Seed-bud roundish. Shaft thread-shaped; as long as the chives. Summit blunt; divided into fewer segments than the blossom.

S. VESS. Berry roundish, naked, divided into fewer cells than the blossom has segments.

SEEDS. Solitary; roundish; bulging on one side, compressed on the other.

ESS. CHAR. Empal. tubular, with scales fencing the chives. Blos. o. Fruit a berry.

RHAM'NUS *Catharticus*. Thorns terminating. *purging* Flowers cloven into 4. Chives and Pointal on different plants. Leaves egg-shaped. Stem upright.

Fl. dan. 850.—Blackw. 135.—Matth. 158.—Dod. 756, repr. in Ger. em. 1337. 2.—Park. 243. 1 at the bottom.—Clus. i. 111, repr. in Lob. obs. 599. 1, Ger. em. 1337. 1, and cop. in Park. 243. 1.

Summit cloven into 4. Berry 4 seeded. LINN.—Chives 4. Blossoms pale green. Berries black.

[Woods and hedges near Norwich. Mr. CROWE.—Side of a brook near Hanley-Cast. Worcestershire. Mr. BALLARD.—Near Worcester. ST.] Apr. May.

A purgative syrup prepared from the berries is kept in the shops. About an ounce of is it a moderate dose; but it generally occasions so much sickness and griping that it is falling into disuse.—The flesh of birds that feed upon the berries is said to be purgative.—The juice of the unripe berries is of the colour of saffron, and is used for staining maps or paper. These are sold under the name of French Berries.—The juice of the ripe berries mixed with alum, is the sap green of the painters; but if they are gathered late in the autumn the juice is purple.—The bark affords a beautiful yellow dye.

Goats, Sheep, and Horses eat it. Cows refuse it.

Alder RHAMNUS *Fran'gula*. Without thorns. Chives and one pointal in the same empal. Leaves very entire.—

Ludw. 82.—*Blackw.* 152.—*Fl. dan.* 278.—*Matth.* 1271.—*Ger.* 1286.—*Lob. obs.* 594. 2, *cop. in Park.* 240.—*Dod.* 784. 1. *repr. in Ger. em.* 1470.—*J. B. i.* 560. 2.—*Trag.* 981.—*Lob. obs.* 594. 1.

Bloss. with 5 clefts. *Summit* notched. *Berry* with 4 seeds. The inner bark is yellow; the outer sea-green, and the middle bark red as blood. LINN.—*Berry* with 3 cells. SCOP. ST.

Black berry-bearing Alder.

Woods and wet hedges. [Woods, Suffolk. Mr. WOODW.—Wood at Smethwick, near Birmingham. ST.] S. Apr. May.

From a quarter to half an ounce of the inner bark, boiled in small beer, is a sharp purge. In dropries, or constipations of the bowels of cattle, it is a very certain purgative.—The berries gathered before they are ripe, dye wool green. The bark dyes yellow, and with preparations of iron, black.

Charcoal prepared from the wood is preferred by the makers of gunpowder.—The flowers are particularly grateful to bees. Goats devour the leaves voraciously, and Sheep will eat them.—The *Papilio Rhamni*, and *Argus*, live upon both the species.

291. EVON'YMUS. Spindletree.

EMPAL. *Cup* 1 leaf, with 5 divisions; flat. *Segments* roundish; concave.

BLOSS. *Petals* 5; egg-shaped; flat; expanding; longer than the cup.

CHIVES. *Threads* 5; awl-shaped; upright; shorter than the blossom; standing upon the seed-bud, as on a receptacle. *Tips* double.

POINT. *Seed-bud* tapering to a point. *Shaft* short; simple. *Summit* blunt.

S. VESS. *Capsule* succulent; coloured; with 5 sides; 5 angles; 5 cells; and 5 valves.

SEED. Solitary; egg-shaped; inclosed in a berry-like seed-coat.

ESS. CHAR. *Bloss.* 5-petaled. *Capsule* coloured; with 5 corners, 5 cells, and 5 valves. *Seeds* (as if) veiled.

OBS. In some plants there are only 4 petals, &c.

EVON'YMUS *europæus*. Flowers mostly consist- common
ing of 4 parts. Leaves sitting.—

Trig. 933.—*Ger.* 1284. 1.—*Dod.* 783, repr. in *Lob. obs.* 591. 2,

Ger. em. 1468. 1, and cop. *Park.* 241. 1.—*J. B.* 1. 6. 201.

—(*Clus.* i. 57, repr. in *Ger. em. ib.* 3, and *Ger.* 1285, is *E. verrucos.* of *Jacq.*)

In its primary flower it accords with the genera to which it is naturally allied. LINN.—Leaves egg-spear-shaped, opposite, on leaf-stalks. *Fruit-stalks* from the bosom of the leaves, and supporting 1 or 2 pair of flowers. *Empal. segments* reflected. *Petals* greenish white, fleshy, lopped at the base. *Threads* fixed in holes in the receptacle. *Tips* brownish yellow. *Seed-bud, shaft, and summit* of one uniform green fleshy substance. WITH.—*Fruit* angular, purplish; sometimes white.

Spindle Tree. Prick Wood. Prick Timber Tree. Gatteridge Tree. Loose Berry.—Woods and hedges. S. Ap. May.

The berries vomit and purge violently. They are fatal to Sheep. Powdered, and sprinkled upon the hair, they destroy lice. If the wood is cut when the plant is in blossom, it is tough, and not easily broken; and in that state is used by watch-makers, for cleaning watches, and to make skewers and tooth-picks.

Cows, Goats, and Sheep eat it. Horses refuse it.

Phalana Evonymella lives upon it.

301. R I' B E S. Currant.

EMPAL. *Cup* 1 leaf, with 5 shallow clefts; distended; permanent. *Segments* oblong, concave, coloured, reflected.

BLOSS. *Petals* 5; small; blunt; upright; growing to the edge of the cup.

CHIVES. *Threads* 5; awl-shaped, upright; standing on the cup. *Tips* fixed side-ways; compressed; opening at the edges.

POINT. *Seed-bud* beneath, roundish. *Shaft* cloven. *Summits* blunt.

S. VESS. *Berry* globular, of 1 cell; dimpled. *Receptacles* 2, longitudinal, lateral, opposite.

SEEDS. Several; roundish; somewhat compressed.

'ESS. CHAR. *Petals* 5, and like the chives inserted into the empalement. *Shaft* cloven. *Berry* beneath, many-seeded.

red R I' B E S *ru'brum*. Without prickles. Bunches smooth, pendant. Flowers flattish.—

Ludw. 92.—*Sheldr.* 91. 1, 2, 3, and 5.—*Walc.*—*Blackw.* 285.

1. 24.—*Trag.* 995.—*Math.* 168.—*Clus.* i. 120. 1, repr. in *Dod.* 749. 2, *Lob. obs.* 615. 2, and *Ger. em.* 1593. 1.—*J. B.* ii. 97.

Petals cloven. *Shaft* divided into 2; segments bent back. LEERS. —*Bloss.* greenish white. *Berries* red.

Currants.—Woods in the northern counties. S. May.

The fruit is universally acceptable; either as nature presents it, or made into jelly. The juice is a most agreeable acid in punch. If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly.—Cows, Goats, and Sheep eat the leaves. Horses are not fond of them. LINN.—A horse refused it. ST.

This plant is very apt to be infested by the *Aphis Ribes*, and then the green leaves become red, pitted, and puckered.

β. *Sweet Currants.*—*Ribes vulgare fructu dulci.* RAY *syn.* 456. Woods in Yorkshire and Leicestershire.

γ. *Small Currants.*—*Ribes fructu parvo.* RAY *syn.* 456.

Wimbleton Park, Surry; and many places in Lancashire.

mountain R I' B E S *alpi'num*. Without prickles. Bunches upright. Floral-leaves longer than the flowers.—

Gunn. ii. 2. 1 and 2.—*Jacq. austr.* i. 47.—*J. B.* ii. 98.

Leaves

Leaves set on both sides with minute yellow globules. *Empal.* 5-sided; segments longer than the petals. *Chives* shorter than the petals. *Pointal* as tall as the cup. WITH.

Sweet Mountain Currants.

Woods and hedges in Yorksh. [About Bradford. Mr. Wood.] S. May.

The fruit has a flat sweetish taste, and is only agreeable to children. The wood being hard and tough makes good teeth for rakes. Cows, Goats, Sheep, and Horses eat it.

R I B E S *nilgrum*. Without prickles. Bunches hairy. *black* Flowers oblong.—

Ludw. 91.—*Fl. dan.* 556.—*Walc.*—*Sheldr.* 91. 7, fruit.—*Blackw.* 285. 6, fruit.—*Dod.* 749, repr. in *Ger. em.* 1593, and cop. in *J. B.* ii. 99. 1, and *Park.* 1562. 2.—*Park. ib.* 3.

Buds glandular. Floral-leaves woolly, and as long as the little fruit-stalks. Flowers woolly. Leaf-stalks a little woolly, and beset with glands. *LINN.*—Leaves sprinkled with glands underneath. Glands globular, yellow, obvious to the naked eye. They appear to be the source of its very strong, and to some persons not unpleasing scent. ST.

Squinancy Berries.

Wet hedges and banks of rivers. [Alder Swamps, Norfolk. Mr. Woodward.] S. May.

The berries have a very peculiar flavor which many people dislike; but their juice is frequently boiled down into an extract, with the addition of a small proportion of sugar: in this state it is called Rob; and is much used in sore throats, but chiefly in those of the inflammatory kind. Some people put them into brandy, for the same purpose that other people use black cherries. The tender leaves tinge common spirits, so as to resemble brandy. An infusion of the young roots is useful in fevers of the eruptive kind; and in the dysenteric fevers of cattle.

Goats and Horses eat the leaves. *LINN.*—A Horse refused it. ST.—All the species are eaten by the *Phalæna grossularia*.

R I B E S *grossularia*. Branches prickly. Fringe of the rough berried leaf-stalks hairy. Berries hairy.—

Walc.

Flower-scales 2, with sometimes a 3d within, opposite, embracing the fruit-stalk; the edges of the outer one lapping over those of the inner. ST.

Feaberry in Cheshire, Lancashire, and Yorkshire. Hedges. *WALC.*—And on old buildings and church towers. ST. S. Apr.

Gooseberry RIBES *Uva-crispa*. Branches prickly. Berries smooth. Fruit-stalks with a flower-scale of 1 leaf.—

Schmied. 1.—*Blackw.* 277.—*Fuchf.* 187, *cop. in Trag.* 977.—*Matth.* 167, *cop. in J. B. i.* 6. 47.—*Lonic.* i. 43. 1.—*Dod.* 748, *repr. in Lob. ic. ii.* 206. 1, *obs.* 617. 2, *Ger. em.* 1324, and *cop. in Park.* 1560. 1.—(*Il. dan.* 546, *should seem from the hairy berries to be R. grossularia.*)

Buds woolly. *Empalement* bent back. *Bunch* none. *Fruit-stalk* woolly. *Flower-scale* egg-shaped, embracing the fruit-stalk, generally with 3 divisions. *Flower* single, pendant. *Leaf-stalks* fringed with knobbed hairs. A triple thorn beneath the buds. LINN.—*Flowers* whitish. *Flower-scale* very small. MÆNCH.—Sometimes 1, and 2 others at its base. POLLICH. ST.—*Flowers* generally in pairs. *Flower-scale* concave, with a border divided into 2 lips. *Thorns*, their number uncertain, under 3. Hairiness of the berries inconstant, and sometimes difficult to say whether smooth or hairy. SCHMIED. who appears to consider this and *R. grossularia* merely as varieties of one species. I must own I have not been able to observe any essential marks of difference between them, except the hairiness and smoothness of the berries, and Parkinson assures us that the seeds of his hairy or prickly green gooseberry produced plants bearing smooth berries, with few or no hairs upon them. In our smooth-berried gooseberry I have found 2 and 3 flower-scales as in the rough-berried gooseberry. ST.

Woods and hedges. Parker's Piece, Girton, Shelford, Ditton, Harston Church Yard, and Triplow, Cambridgeshire. RELHAN. S. Apr. May.

304. HED'ERA. Ivy.

EMPAL. Fence of the simple rundle very small; with many teeth. Cup very small, with 5 teeth, binding round the seed-bud.

BLOSS. Petals 5; oblong; expanding; bent inwards at the points.

CHIVES. Threads 5; awl-shaped; upright; as long as the blossom. Tips fixed side-ways; forked at the base.

POINT. Seed-bud turban-shaped; bound round by the cup. Shaft simple; very short. Summit simple.

S. VESS. Berry globular; with 1 cell.

SEEDS. 5; large; bulging on 1 side, angular on the other.

ESS. CHAR. Petals 5, oblong. Berry 5-seeded, bound round by the empalement.

HED'ERA *Helix*. Leaves, some egg-shaped, and common others lobed.—

Curt. i. 8.—Sheldr. 103.—Blackw. 188.—Trag. 801.—Ger. 708, 1 and 2 β .—Fuchs. 722, and 723 β , cop. in J. B. ii. α . 111. 1 and 2 β .—Dod. 413. 1 and 2 β , repr. in Lob. obs. 336. 2, and 337. 1 β , and Ger. em. 857. 1 and 2 β ; and cop. in Park. 678. 1 and C78. 4. β .—Matth. 624 and 625. β .

When it trails on the ground its branches are small and weak, and its leaves with 3 lobes. CURT.—In which state it does not produce fruit, and has been called *Barren* or *Creeping Ivy*. To the figures of it in this stage of its growth the letter β is subjoined. ST.—But when it climbs up walls or trees it grows much stronger, and the leaf changes to egg-shaped. CURT. ST.—At least when arrived to its full growth, in which state it is called *Climbing* or *Berried Ivy*. ST.—Leaves glossy. Blossoms greenish white. Berries black.—Woods, hedges, and old buildings. S. O&T.

The roots are used by leather-cutters to whet their knives upon. Its ever-green leaves adorn our walls and cover the naked trunks of trees. Apricots and peaches covered with ivy during the month of February, have been observed to bear fruit plentifully. Phil. Transf. No. 475.—The leaves have a nauseous taste. Haller says they are given in Germany as a specific in the atrophy of children. Common people apply them to issues. The berries have a little acidity. They purge and vomit. WITH.—In warm climates a resinous juice exudes from the stalks.—Horses and Sheep eat it. Goats and Cows refuse it. LINN.—Sheep are fond of it. ST.—And in severe weather it is stripped off the trees as food. Mr. HOLLEF.

313. ILLEC'EBRUM. Knotgrafs. (Pet.)

EMPAL. Cup 5 leaves and 5 angles; leaves coloured; tapering; distant at the points; permanent.

BLOSS. None.

CHIVES. Threads 5; hair-like; within the cup. Tips simple.

POINT. Seed-bud egg-shaped; sharp; ending in a short cloven shaft. Summit simple; blunt.

S. VESS. Capsule roundish; tapering at each end; with 5 valves, and 1 cell; covered by the cup.

SEED. Single; very large; somewhat round, but sharp at each end.

ESS. CHAR. Empal. of 5 leaves, gristly. Bloss. o. Summit simple. Capsule of 5 valves, and 1 seed.

whorled ILLEC'EBRUM *verticillatum*. Flowers in whorls, naked. Stems trailing. LINN.—*The floral-leaves are so much shorter than the flowers, that the latter appear naked.* ST.

Fl. dan. 335.—*Vaill.* 15. 7.—*J. B.* iii. 378. 2, *cop. in Pet.* 10. 7.

—*Ger. em.* 563, *cop. in Park.* 1333, and *ill cop. in Ger.* 449. 1.

Leaves oval, keeled, fleshy. MR. WOODWARD.—*Upper whorls crowded near together, by no means so far asunder as in Fl. dan.* MR. WOODW. ST.—*Empal. leaves nearly cylindrical, tough, white without, slightly keeled underneath, flattened, and greenish within from a little below the point; points tapering into short hairs. When closed they exactly resemble the seed-vessels of the Sedum. Floral-leaves egg-shaped, semi-transparent, whitish, at the base of the flowers, performing the office of a fence.* ST.—*Blossoms white.*

Marshes, and wet pastures in Cornwall.

P. July.

314. G L A U ' X. Saltwort.

EMPAL. None, unless you consider the blossom as such. BLOSS. *Petal* single; upright; bell-shaped; permanent; with 5 blunt segments, rolled back.

CHIVES. *Threads* 5; awl-shaped; upright; as long as the blossom. *Tips* roundish.

POINT. *Seed-bud* egg-shaped. *Shaft* thread-shaped; as long as the chives. *Summit* a knob.

S. VESS. *Capsule* globular; tapering; of 1 cell and 5 valves.

SEEDS. 5; roundish. *Receptacle* large; globular; with hollows where the seeds lie.

ESS. CHAR. *Empalement* of 1 leaf. *Blossom* o. *Capsule* of 1 cell, 5 valves, and 5 seeds.

black G L A U ' X *maritima*.

Lob. obs. 227, 2, *repr. in Ger. em.* 562, and *cop. in Park.* 1283. 2.

—*Fl. dan.* 548.*—*Ger.* 448.

Leaves oval-oblong. LINN.—*Stems* trailing; jointed. *Leaves* fitting. *Bloss.* at the base of the leaves; purple; sometimes greenish white; or white; or striped.—*Flowers* fitting, from the bosom of the leaves, from about the middle of the stem. LYONS.

Sea Milkwort. *Black Saltwort.*

Sea coast. [Norfolk coast. MR. WOODW.—Between Marazion and Penzance. MR. WATT.]

P. July.

Cows eat it.

* *Leaves* too pointed, and *stems* too naked. MR. WOODWARD.

315. THE'SIUM. Flaxweed. (*Park.*)

EMPAL. *Cup* 1 leaf; permanent; turban-shaped; with 5 shallow clefts. *Segments* half spear-shaped; upright; blunt.

BLOSS. None, unless you consider the *cup* as such, from its colour on the inside.

CHIVES. *Threads* 5; awl-shaped; inserted at the base of the segments of the cup; shorter than the cup. *Tips* roundish.

POINT. *Seed-bud* beneath; at the bottom of the cup. *Shaft* thread-shaped; as long as the chives. *Summit* rather thick and blunt.

S. VESS. None. The *cup* contains the seed in its bottom without opening.

SEED. Single; somewhat round; covered by the closing cup.

ESS. CHAR. *Empalement* 1 leaf, into which the chives are inserted. *Seed* 1, beneath.

THE'SIUM *Linophyllum*. Panicle leafy. Leaves mountain strap-shaped.—

Clus. i. 324. 1, repr. in *Ger. em.* 555, and cop. in *Park.* 459. 6,

Ger. 442. 7, *Pet.* 9. 5, and *J. B.* iii. 461. 3.—*H. ox.* xv. 1. 3.

Root woody. *Leaves* of a yellowish green. POLLICH. ST.—

Floral-leaves on foot-stalks, cloven into 3; the middle segment long, pointing downwards; the 2 outer short, pointing upwards,

Flower sitting in the division. MR. WOODWARD.—*Stems* numerous,

branching above, and sometimes trailing, probably from the first

shoots having been eaten down. *Flowers* on fruit-stalks in bunches.

Fruit-stalks about the length of the flowers. *Floral-leaves* 3, terminating the fruit-stalk, the lowermost the longest. ST.—*Bloss.* white.

Bastard Toadflax.

Mountainous pastures, particularly in a chalky soil.—[Near Bury, Suffolk. MR. WOODWARD.] P. June. July.

Obs. Haller under *T. alpinum* describes a *Thesium*, which seems, he says, to unite the *T. alpinum* and *Linophyllum*. *Stem* taller, and more upright than *T. alpinum*; but *leaves* strap-shaped, soft, and flaccid. *Flowering-branches* about an inch long, somewhat branched, sometimes with only 2 flowers. *Flower-leaves*, 2 smaller, the larger in full grown plants shorter than the flower. HALL. ST.—But in the younger plants extending beyond the flower. HALL.—All the English specimens which I have hitherto seen, seem to be this

plant of Haller's, which, from Linnæus's character of *leave, strap-shaped*, should seem also to be his *T. Linophyllum*, whereas those of Hall. 1573, and Clusius's figure are truly *spear-shaped*. Leaves nerveless, not with 3 strings as in the *Theſum* of Hall. 1573, and Scop. 172. Cultivation may ascertain its claim to be a species or variety. See also Relhan at p. 99.

[Chalk cliff between Fresh-water Bay and the Needles in the isle of Wight. ST.]

322. VIN'CA. Periwinkle.

EMPAL. Cup with 5 divisions; upright; sharp; permanent.

BLOSS. 1 petal; falver-shaped. Tube longer than the cup; cylindrical in the lower part; wider above; marked with 5 lines, and 5 angles at the mouth. Border with 5 divisions; horizontal; the segments connected with the top of the tube; broadest at the outward edge, and obliquely lopped.

CHIVES. Threads 5; very short; first bent inwards, and then backwards. Tips membranaceous; blunt; upright, but bowed inwards; with the dust at the margins.

POINT. Seed-buds 2; roundish; with 2 roundish bodies lying contiguous to them. Shaft common to both seed-buds; cylindrical; as long as the chives. Summits 2; the lower one round and flat; the upper summit a concave knob.

S. VESS. 2 bags; cylindrical; long; tapering; upright; of 1 valve, opening lengthways.

SEEDS. Numerous; oblong; cylindrical; furrowed.

ESS. CHAR. Contorted. Bags 2; upright. Seeds naked.

OES. One of the NATURAL ORDER of the CONTORTED plants. The structure of the flower of this genus, will help, in some measure, to explain to us that of *Asclepias*.—The want of dust, however, in the *Asclepias*, distinguishes that genus from all those comprehended under the great division of perfect plants. ST.

lesser VIN'CA mi'nor. Stems trailing. Leaves spear-egg-shaped. Flowers on leaf-stalks. LINN.—Flowering-stem upright in the spring, but in autumn it bears flowers on the shoots of the year, which are trailing. Mr. WOODWARD.

Curt. iii. 29.—Ludw. 75.—Sheldr. 22, except the blossom which is ill drawn; no seed-vessel.—Blackw. 59.—Dod. 405, repr. in Lob. obs. 360. 1, Ger. em. 894. 1, and cop. in Park. 381. 1, and J. B. ii. 131.—Matth. 956.—Walc.—Trag. 394.—Fuchf. 360, blossom bad.

Leaves blunter, smooth at the edge. Fruit-stalks curved. Empal. Thort. LINN.—The ripe seed-vessel I have never been able to discover. CURT.—The fruit seldom comes to maturity, and Cæsalpin. seems the only one that has observed it in that state. It may, however, be easily obtained by planting the *V. major* in a pot, where the roots not having free room to extend themselves, the juices are more copiously propelled towards the pointal, which then expands into well-formed seed-vessels. TOURN.—This affords a very pleasing confirmation of a general remark of Mr. Curtis's, on the frequent barrenness of plants which propagate themselves by their roots. ST.—Shaft inversely conical. Upper summit woolly. Leaf-stalks short. Flowering-stems upright. Bloss. blue. WITH.

Woods and hedges but rare. [Near Hampstead. Earsham Wood, plentifully. Mr. WOODWARD.] P. May.

A Horse refused it. ST.

VIN'CA *ma'jor*. Stems upright. Leaves egg-shaped. *greater* Flowers on fruit-stalks. LINN.—Leaves fringed at the edge. HALL. ST.

Curt. iv. 37.—Tourn. 45, fructification with the seed-vessel.—Walc.—Clus. i. 121. 2, repr. in Dod. 406. 1, Lob. obs. 360. 2, Ger. em. 894. 2, & cop. in Park. 381. 2.—J. B. ii. 132.—Garid. 81.

A variety of the *V. minor*. LINN.—Mr. Curtis has not described the fruit, neither have I ever seen it. ST.—Empalement as long as the tube of the blossom. Bloss. tube woolly within, just above the tips. Leaf-stalks long. Bloss. blue; with a blush of purple. WITH.

Woods and hedges. [A grove in Thorpe, by Norwich. Mr. WOODWARD]. P. May.

Bitter and slightly astringent. WITH.—A Horse refused it. ST.

Order II.

DIGYNIA; II. POINTALS.

336. HERNIA'RIA. Rupturewort.

EMPAL. *Cup* 1 leaf; with 5 divisions; sharp; expanding; coloured within; permanent.

BLOSS. None.

CHIVES. *Threads* 5; awl-shaped; small; within the segments of the cup. *Tips* simple. There are 5 other threads without tips, alternating with the segments of the cup.

POINT. *Seed-bud* egg-shaped. *Shaft* hardly any. *Summits* 2; tapering; as long as the shaft.

S. VESS. *Capsule* small; at the bottom of the cup; covered; scarcely opening.

SEED. Solitary; egg-shaped, but tapering; shining.

ESS. CHAR. *Empal.* divided into 5. *Blossom* 0. *Chives*, 5 of them barren. *Capsule* 1-seeded.

smooth HERNIA'RIA *glabra*. Smooth.

Fl. dan. 529.—*Trag.* 527.—*Matth.* 953.—*J. B.* iii. 378. 3.—

Ger. 454.—*Dod.* 114, repr. in *Ger. em.* 569.—*Blackw.* 320.

—*Pet.* 10. 9.—*Park.* 447. 9.

Floral-leaves white, fringed. *Scop.* Mr. WOODWARD. *ST.*—*Bloss.* yellowish.

Gravelly soil. Lizard Point, Cornwall. HUDS. A. July.

A little falstish and astringent. It increases the secretions by the kidneys. The juice takes away specks in the eye.

Cows, Sheep, and Horses eat it. Goats and Swine refuse it.

β. HUDS. *H. lenticulata*, which see.

hairy HERNIA'RIA *hirsuta*. Rough with hair.—

Sheldr. 110.—*Pet.* 10. 10.—*J. B.* iii. 379. 1.—*H. ox.* v. 29.* row 1. 2. 6.

Scarcely more than a variety of *H. glabra*. LINN. *ST.*—*Floral-leaves* membranaceous, white, fringed. *Flowers* not more fitting than those of *H. glabra*. *ST.*—*Bloss.* greenish yellow.

Gravelly soil. Colney Hatch, near Barnet. A. July. Aug.

sea HERNIA'RIA *lenticulata*. Somewhat shrubby. Leaves oblong-egg-shaped, hairy.—

Pluk.

Pluk. 53. 3, *cop.* in *Pet.* 10. 6.—*Buxb.* i. 28. 2, but I am doubtful whether I have ever seen the plant. My specimens, which I gathered in the King's garden, Paris, are not distinguishable from the *H. hirsuta*. Mr. Hudson makes it a variety of *H. glabra*, though Linnæus characterises it as having hairy leaves.

Bloss. greenish white.

Sea shore.

P. Aug.

337. CHENOPO'DIUM. Goosetoot.

EMPAL. Cup 5 leaves; concave; permanent; leaves egg-shaped; concave; membranaceous at the edges.

BLOSS. None.

CHIVES. Threads 5; awl-shaped; as long as the leaves of the cup, and standing opposite to them. Tips roundish; double.

POINT. Seed-bud round and flat. Shaft short; divided. Summits blunt.

S. VESS. None. The cup closes upon the seed; has 5 sides; 5 compressed angles; falling off (with the seed.)

SEED. Single; round; depressed.

ESS. CHAR. *Empal.* of 5 leaves, and 5 angles. *Bloss.* o. *Seed* 1, lentil-shaped.

OBS. In some species the shaft is divided into 3.

* Leaves angular.

CHENOPO'DIUM Bonus-Henri'cus. Leaves triangular-arrow-shaped, very entire. Spikes compound, leafless, from the bosom of the leaves.—

Curt. iii. 31.—*Ludw.* 185, but flowering spike bent down by force.

—*Fuchs.* 463, *cop.* in *J. B.* ii. 965. 2.—*Fl. dan.* 579.—*Ger.*

259.—*Trag.* 317.—*Matth.* 598, *cop.* in *Dod.* 651, which repr.

in *Lob. obs.* 129. 2, *Ger. em.* 329, and *cop.* in *Park.* 1225. 6,

H. ox. v. 30. row 2. n. 1. figure 3d, and *Pet.* 7. 12.—*Blackw.*

311.—*Munt.* 191.

Little spikes alternate; sitting. Flowers congregated; sitting. **LINN.**—Leaves waved at the edge, underneath sprinkled with a soapy mealiness. *Bloss.* greenish white. **HALL.**—Lower little spikes on short fruit-stalks rising from the bosom of the flower-leaves.

Common English Mercury. All-good. Good Henry. Good King Henry. Wild Spinage.—Amongst rubbish, on road sides, and walls, [and sometimes in pastures. **ST.**]

P. May.

Cultivated

Cultivated as spinage by the poor people at Boston, in Lincolnshire. CURT.—The young shoots peeled and boiled, may be eaten as asparagus, which they resemble in flavour. They are gently laxative. The leaves are often boiled in broth. The roots are given to Sheep that have a cough.

Goats and Sheep are not fond of it. Cows, Horses, and Swine refuse it.

upright CHENOPO'DIUM *ur'bicum*. Leaves triangular, somewhat toothed. Bunches crowded, quite straight, lying close to the stem, very long.—

Pet. 8. 8.—(*Buxb. hall.* 1, at p. 69, I have not seen, but is referred by Schreb. to *C. murale*.)

Possibly a variety of *C. rubrum*. There seems no distinction but in the bunches. *Empal.* smaller. Mr. WOODW.—*Bloss.* pale green. *Stem* upright, simple. *Leaves* alternate, on leaf-stalks, toothed, pointed at each end, smooth, marked with 1 or 2 teeth. *Bunches* from the bosom of the leaves, and terminating. LYONS.

Dunghills, and amongst rubbish.

A. Aug. Sept.

Goats and Sheep eat it. Horses and Cows refuse it.

red CHENOPO'DIUM *ru'brum*. Leaves heart-triangular, bluntish, toothed.* Bunches upright, compound, somewhat leafy, shorter than the stem.—

Luchf. 653, *cop. in J. B.* ii. 975. 2, *Dod.* 616. 1, *Ger. em.* 328.

2.—*Matth.* 462, *cop. in Lob. obs.* 128. 1, *Ger. em.* 328. 1, and

cop. in Park. 749. 8, and *H. ox.* v. 31. row 2. 2.—*Pet.* 8. 6.

When full grown, red, and spreading. Dies down on the first frost. *Stems* drooping, and lying close to the ground. *Leaves* thick, shining. *Spikes* with sitting balls of flowers, interspersed with strap-shaped leaves. LINN.—Is not this and the *C. ur'bicum* the same plant? HUDS.—*Bunches* short, close, branched. Mr. WOODWARD.—*Stem* furrowed. *Leaves* alternate, upright, running down into leaf-stalks, nearly three-square, pointed, sharply toothed, smooth above. *Leaf-stalks* as long as the leaves. *Bunches* from the bosom of the leaves, shorter than the stem, but the whole panicle longer than the stem. LYONS.—*Stem* pale green, smooth, slightly scored with lines of a deeper green. *Branches* from

* The plant which accords with the figures referred to by Linnæus I would characterise thus: Leaves trowel-shaped, toothed, indented; teeth tapering. Bunches upright, compound, leafy, shorter than the leaves. (*Foliis deltoideis, dentato sinuatis, dentibus acuminatis; racemis erectis, compositis, foliaceis, foliis brevioribus.* ST.)

From the bosom of the leaves, upright. *Leaves* with their leaf-stalks as long or longer than the branches that rise from them; no shining spangles upon them or the *empalement*, so as to give the plant a white appearance, but when held against a strong light an infinite number of shining particles appear. *Bunches* sitting in the bosom of the upper leaves. WITH.

G. qsfout. Sarcobac.

Dunghills, rubbish, and cultivated ground.

A. Aug.

CHENOPO'DIUM murale. Leaves egg-shaped, *wall* shining, toothed, pointed. Bunches branching, naked.—

Pet. 8. 5.—*Ger.* 256. 2, *cop. in J. B.* ii. 976. 1.—(*Ger. em.* 323. 1, seems rather to be *C. rubrum*, and *J. B.* ii. 975. 2, referred to by *Linnaeus*, is a copy of *Fuch.* 653, which is *C. rubrum*.)

Of a green colour. *Stems* upright, open, thick, smooth on the upper side. *Leaves* thickish, glossy, smooth, very like those of *C. rubrum*, but more sharply toothed. *Flowers* in broad-topped spikes as in *C. hybridum*, not in bunches as in *C. rubrum*. Fruit in a sort of panicle. LINN.

Dunghills, and rubbish.

A. July. Aug.

Cows eat it; but it is said to be poisonous to Swine.

β. HUDS. Procumbent blite with a thick, shining, waved leaf.

RAY. p. 154. 6.

(*Pet.* 8. 5, is referred to by *Ray*, but has an upright stem.)

Bocking-street, Essex; and Jesus Coll. Lane, Cambridge. *RAY. A.*

CHENOPO'DIUM fero'tinum. Leaves trowel-fig-leaved shaped, indented, toothed, wrinkled, smooth, uniform. Bunches terminating.—

Curt. ii. 18, named *C. viride*, at least if we may depend upon its exact correspondence with *Pet.* 8. 3, the figure referred to by *Linnaeus*, *Haller*, and *Hudson*.

Stem of the height of a man, very much branched. *Leaves* pale green, resembling those of *C. album*, but broader. LINN.—*Leaves* oblong, narrow, with a deep sinew on each side. BUDDLE in R. syn.—Greener than the *C. album*, though not without a degree of mealiness. *Stem* of a bright red at the insertion of the branches. *Leaves* longer than those of *C. album*. *Empal.* not quite so much covered with little globules. *Seeds* reticulated with imprinted dots. CURT

Dunghills, and rubbish.

A. Aug. Sept.

CHENOPO'DIUM album. Leaves diamond-triangular, gnawed, entire behind; the uppermost oblong. Bunches upright.—(*Lower-leaves rhomboidal, betwixt toothed and*

and hollowed; upper oblong. Bunches branching, mostly bare, (including *C. viride* as variety β . HUDS.)

Curt. ii. 16.—Blackw. 553.—Fuchf. 119, cop. in *J. B.* ii. 972. 1, and Dod. 615. 2, which repr. in *Ger. em.* 326. 6.—*Ger.* 257. 4.—Pet. 8. 2.—(Matth. 461, cop. in *Lob. obs.* 128. 1, which repr. in *Ger. em.* 326. 5, and cop. in *Park.* 748. 6, is an *Atriplex*, as is evident from its seed.)

Plant whitish when full grown. Bunches always branched, and, as it were, tuftlike, straight, composed of clustered spikes. Spikes small, egg-shaped, sitting, alternate, crowded; composed of flowers set close together. Flower-leaves strap-shaped, very entire, sitting, small, 2 or 3 to each spike. LINN.—Stem shining, bluntly angular, streaked with green, purple, and white. Branches, 2 together, especially at the lower part of the stem. Leaves with 3 semi-transparent veins springing from the base, sprinkled, especially on the under side, with white shining particles; the upper spear-shaped. Empal. spangled with minute glands; of 1 leaf, deeply divided. Tips yellow. Seeds black. WITH.

Atriplex sylvestris altera. *C. B.* pin. 119.—(And not *Atriplex sylvest.* fol. sinuato candicante *C. B.* ib. at least if we may judge from the figures referred to.)

Common Wild Orache.

Old dunghills, rubbish, and gardens.

A. Aug.

Cows, Goats, and Sheep eat it. Horses refuse it. Swine are extremely fond of it. LINN.—Horses sometimes eat, and even appear fond of it. ST.—A black *Aphis* feeds upon it, and sometimes destroys it. ST.

β . HUDS. *Chenopodium viride*, which see.

γ . HUDS. Leaves generally very entire, sometimes toothed. RAY. p. 155. n. 12.

J. B. ii. 973. 2.

δ . HUDS. Leaves thick, blunt. RAY. p. 156. n. 13.

A. Aug. Sept.

green CHENOPO'DIUM *viride*. Leaves diamond-shaped, toothed, indented. Bunches, branches sometimes leafy.—

Vaill. 7. 1.—Pet. 8. 4.—(*J. B.* ii. 972, is also referred to *C. alb.* and with more propriety.—Curt. ii. 18, appears to be *C. serotin.* in which the bottom of the indentures are rounded, whereas in the figures of Vaill. they are acute.)

Stem upright, green; with purplish angles. Leaves of the branches spear-shaped, very entire, with only 1 or 2 teeth. Bunches thread-shaped, divided, long, bare. Empal. of the fruit with 5 sharp angles, so nearly

All-feed CHENOPO'DIUM *polysper'mum*. Leaves very entire, egg-shaped. Stem trailing. Tufts forked, leaf-less, from the bosom of the leaves. LINN.—Empal. of the fruit open. CURT.—Stem both upright and trailing. REICH.—The small spear-shaped flower-leaves of the upper flowering-branches, at first sight induce one to suppose the bunches of flowers to be leafy. Bunches when first in blossom egg-shaped or globular. ST.

Curt. ii. 20.—H. ox. v. 30. row 3. 6.—Dod. 617. 2, cop. in J. B. ii. 967. 2, and H. ox. ib. 3.—Ger. 257. 3, cop. in Pet. 7. 10, seed ripe.—Lob. obs. 129. 1, repr. in Ger. em. 325. 3, and cop. in Park. 754. 3.

Stalk angular. POLLICH. ST.—Four-cornered. CURT.—Leaves sometimes in the more luxuriant plants with a large tooth on one, and sometimes on both sides. ST.

Upright Blite. All-feed.—Cultivated ground, and dunghills. [Generally in turnep fields. Mr. WOODWARD.] A. July. Aug. Cows and Sheep eat it. Goats and Horses refuse it.

sea CHENOPO'DIUM *marit'imum*. Leaves awl-shaped, semi-cylindrical.—

Fl. dan. 439.—Dod. 81. 2, repr. in Ger. em. 535. 3, and cop. in Park. 279. 2.—Lob. ad. 170. 1, cop. in Pet. 9. 1.—(H. ox. v. 33. 3, cannot surely be the plant.)

Leaves accurately semi-cylindrical. Mr. WOODWARD.—Stem furrowed. Branches alternate. Flowers solitary, in the bosom of the leaves. Empal. 1 leaf, divided. Tips yellow. Shaft single. Summits 3, pink-coloured. Seeds glossy. WITH.

Small White Glaswort. Small Glaswort.

Sea shore. [Salt Marshes. Mr. WOODWARD.] A. Aug.

An excellent pot-herb.—The *Phalæna Lubricipeda* feeds upon most of the species.

338. BE'T A. Beet.

EMPAL. Cup 5 leaves; concave; permanent; leaves oblong-egg-shaped; blunt.

BLOSS. None.

CHIVES. Threads 5; awl-shaped; as long as the leaves of the cup, and standing opposite to them. Tips nearly round.

POINT. Seed-bud in a manner below the receptacle. Shafts 2; very short; upright. Summits pointed.

S. VESS. Capsule in the bottom of the cup; of 1 cell; soon falling off.

SEED. Single; kidney-shaped; compressed; lying in the substance of the base of the cup.

ESS. CHAR. Empalement 5 leaves. Bloss. o. Seed kidney-shaped, within the substance of the bottom of the empal.

BE'T A *marit'ima*. Flowers in pairs.—

sea

No figure of it, but *Ger. em.* 318. 2, is a pretty good representation of it, as *Mr. Lightfoot* observes.

Differs from *B. vulg.* in flowering the first year; in the leaves growing oblique or vertical; in the leaves of the cup being equal, and not toothed. LINN.

Sea coast, and about Nottingham. [Near Lynn. *Mr. Woodw.*
—And Isle of Wight. *Str.*] B. Huds. P. Ray. Aug.

339. SAL'SOLA. Kelpwort.

EMPAL. Cup 5 leaves; egg-shaped; concave; permanent.

BLOSS. None, unless you call the cup the blossom.

CHIVES. Threads 5; very short; standing upon the leaves of the cup.

POINT. Seed-bud globular. Shaft short; with 2 or 3 divisions. Summits bent back.

S. VESS. Capsule egg-shaped; of 1 cell; lapped up in the cup.

SEED. Single; very large; spiral like a snail shell.

ESS. CHAR. Empalement 5 leaves. Blossom o. Capsule 1 seed. Seed snail-like.

SAL'SOLA *Ka'li*. Herbaceous, drooping. Leaves prickly awl-shaped, thorny, rough. Empalement bordered, from the bosom of the leaves.—

Fl. dan. 818. a.—*Dod.* 81. 1.—*H. ox.* v. 33. 11.—(*Lob. obs.* 463. 1, repr. in *Ger. em.* 1117. 3, and cop. in *Park.* 1034, and *Pet.* 9. 2, which is referred to by Ray and Hudson.—*Matth.* 1035, cop. in *Ger. em.* 960. 4; and *J. B.* iii. 706. 2, seem to be *S. Tragus.*)

Blossoms greenish.

Prickly Glaswort.

Sea shore, frequent. Mr. WOODWARD.

A. July. Aug.

Cows, Horses, Goats, Sheep, and Swine refuse it.

Shrubby SAL'SOLA *fruticosa*. Shrubby, upright. Leaves thread-shaped, bluntish.—

Lob. adv. 163. 3, cop. in *J. B.* iii. 704. 2.—(*Lob. obs.* 206. 2, repr. in *Ger. em.* 523. 4, and cop. in *H. ox.* v. 33. 10, and a branch of it cop. in *Park.* 731. 7, is *Reaumuria vermiculata.*)

Shrub Stone Crop, or Glaswort.

(*Sedum minus fruticosum*. *C. B. pin.* 284, is *Reaumuria vermiculata.*)

Sea shore. [Near Southwold, Suffolk. Mr. WOODWARD.]

S. Aug.

345. UL'MUS. Elm.

EMPAŁ. Cup 1 leaf; turban-shaped; wrinkled; permanent. Border with 5 clefts; upright; coloured on the inside.

BLOSS. None.

CHIVES. Threads 5; awl-shaped; twice as long as the cup. Tips with 4 furrows; upright; short.

POINT. Seed-bud round and flat; upright. Shafts 2; reflected; shorter than the chives. Summits downy.

S. VESS. Berry oval; large; not pulpy; compressed and membranaceous.

SEED. Single; somewhat globular; but a little compressed.

ESS. CHAR. Empalement with 5 clefts. Blossom o. Berry juiceless, flattened, membranaceous.

common UL'MUS *campest'ris*. Leaves doubly serrated, unequal at the base.—

Fl. dan. 632, the double serratures of the leaves not expressed.—*Nat. displ.* ii. 8. 2, at p. 63, cop. in *Nat. delin.* ii. 6. 2, at p. 65.—*Hunt. Evel.* 118.—*Park.* 1404. 1. 6.—*Matth.* 144, cop. in *Lob. obs.* 607. 1, which repr. in *Ger. em.* 1480. 1, and cop. in *Park.* ib. a. blisters on the leaves, no fruit.—*Ger.* 1297. 1.—*Trag.* 1087.

The

The *flowering-buds* are beneath the leaf-buds. *Flowers* in very short broad-topped spikes. *Bark* of the trunk cracked and wrinkled.

Common Elm.

Hedges. Not found to the north of Stamford. RAY. EVERL. ST.—[Most plentiful in Worcestershire and Middlesex, which counties are beds of gravel and marle. ST.]

A decoction of the inner bark drank freely has been known to carry off the water in dropsies.—It cures the *Lepra ichthyosis* of Sauvages. *Lettsom's Med. Mem.* § 3.—The bark dried and ground to powder, has been mixed with meal in Norway to make bread; in times of scarcity.—The flowers have a violet smell.—The wood being hard and tough is used to make axle-trees, mill-wheels, keels of boats, chairs, and coffins.—The tree is beautiful, and well adapted to make shady walks, as it does not destroy the grass, and its leaves are acceptable to Cows, Horses, Goats, Sheep, and Swine; for this purpose it should be grafted upon the *U. glabra*; and then the roots will not send out suckers, which the common elm is very apt to do, and give a great deal of trouble to keep the ground clear of them.—It loves an open situation, and a black or clayey soil. It bears to be transplanted.—*Papilio polychloros*, and *C. album*; *Phalæna lubricipeda*, *Pavonia betularia* and *vellica*; *Cimex ulmi* and *striatus*; *Cicada ulmi*; *Aphis ulmi*, feed upon it. The latter generally curl up the leaves, so as to make them a secure shelter against the weather. LINN.—Silk-worms will devour the tender leaves with great avidity. *Transf. of Soc. of Arts* ii. 157.

β. Differs from α only in the smallness of all its parts. RAY. *letter*

Nat. displ. ii. 27. 1, at p. 287.—*Dod.* 837, repr. in *Ger. em.* 1480.

2, and cop. in *Park.* 1404. 4, blisters on the leaves from insects, no fruit.

Between Christ Church and Lymmington. RAY.—[In Lord Dudley's Woods, at Himlèy, Staffordshire. WITH.]

Narrow-leaved Elm.

δ. Leaves smooth. GER. EM. RAY. &c.

Ger. 1297. 2, cop. in. *Ger. em.* 1481. 4; which cop. in *Park.* 1403. 3;

Witch Elm.—Road beyond Dartford, and near Rumford. RAY. and GER.—[Two trees in hedge rows between Stourbridge and Affcote. ST.]

Ü L' M U S *mont'na*. Leaves oblong-egg-shaped, doubly serrated, unequal at the base. Bark smooth. HUDS. *Wyck Hûfel*
ed. I.—That of the trunk rough. ST.

Nat. displ. ii. 27. 2, at p. 287.—*Ger. em.* 1481. 3; cop. in *Park.* 1404. 2.—(*Ger. em.* 1481. 4, appears to me rather a variety of *U. campestris*.)

The *bark* will peel from the boughs for many feet without breaking. The *boughs* spread themselves wider, and hang more down than those of the *U. campestris*. *Leaves* and *seeds* much larger. JOHNSON in *Ger. em.* ST.—*Trunk* soon dividing into long wide-spreading winged branches; when at its full growth seldom rises to above one third of the height of the *U. campestris*. It flowers when even under 30 feet high, while the *U. campestris* seldom flowers till it has gained a much greater age and height. *Branches* very brittle. *Clefts* of the *empalement* 5, 6, and in one instance 4 and 9. *Chives* 5 and 6. *Summits* 3. I am clearly of opinion that it is a distinct species. ST.

Ulmus montana. C. B. pin.

Wych Hafel. Broad-leaved Elm.

Shady lanes, and outskirts of woods. RAY. ST.—It is certainly a native. LIGHTFOOT.—In Scotland, and the north of England, it seems more peculiarly to prevail, from the scarcity of the *U. campestris*, which last LINNÆUS notes as growing near the villages of Europe, whereas this species is found in woods and brakes, as well as hedge rows. ST.

S. March. ST.

351. SWER'TIA. Felwort.

EMPAL. *Cup* with 5 divisions; flat; permanent. *Segments* spear-shaped.

BLOSS. 1 *petal*. *Tube* none. *Border* flat; with 5 divisions. *Segments* spear-shaped; larger than the cup; connected by the claws. *Honey-cups* 10, consisting of 2 hollow dots in the inner side of the base of each segment, and encompassed with small upright bristles.

CHIVES. *Threads* 5; awl-shaped; not quite upright; shorter than the blossom. *Tips* fixed side-ways to the threads.

POINT. *Seed-bud* oblong; egg-shaped. *Shaft* none. *Summits* 2; simple.

S. VESS. *Capsule* cylindrical; tapering at each end; with 1 cell, and 2 valves.

SEEDS. Numerous; small.

ESS. CHAR. *Bloss.* wheel-shaped. *Honey-cup* pores at the base of the segments of the bloss. *Caps.* of 1 cell, and 2 valves.

marsh SWER'TIA *perennis*. Blossom with 5 clefts. Root-leaves oval.—

Jacq. austr. iii. 243.—*Clus.* i. 316. 2, repr. in *Ger. em.* 433. 5, and cop. in *Barr.* 91, and *H. ox.* xii. 5. 11.

Marsh Gentian.

Mountainous places in Wales.

P. Aug.

352. GENTIA'NA. Gentian.

EMPAL. *Cup* with 5 divisions; sharp; permanent. *Segments* oblong.

BLOSS. 1 *petal*; tubular below; tube close; above cloven into 5; flat; shrivelling; and variously shaped.

CHIVES. *Threads* 5; awl-shaped; shorter than the blossom. *Tips* simple.

POINT. *Seed-bud* oblong; cylindrical; as long as the chives. *Shafts* none. *Summits* 2; egg-shaped.

B. VESS. *Capsule* oblong; cylindrical; tapering; slightly cloven at the end; of 1 cell, and 2 valves.

SEEDS. Numerous; small. *Receptacles* 2; each growing lengthways to a valve.

ESS. CHAR. *Blossom* of 1 *petal*. *Capsule* 2 *valves*; 1 *cell*. *Receptacles* 2; longitudinal.

OBS. The figure of the fruit is constant; but the flowers vary in different species, both as to the number and shape of the parts. In one species the throat of the blossom is open, in another it is closed with soft hairs. In some, the segments of the blossom are fringed; in others, the border is bell-shaped, upright, and plaited. Some have a starry appearance, with small segments betwixt the larger; others are funnel-shaped, &c. LINN.

GENTIA'NA *Pneumonan'the*. Blossoms with 5 clefts; *marsh* bell-shaped; opposite; on fruit-stalks. Leaves strap-shaped.—

Fl. dan. 269.—*Gmel.* iv. 51. *A.*—*Matth.* 646.—*Clus.* i. 313. 2, repr. in *Lob. obs.* 166. 2, *Ger. em.* 438, and cop. in *Park.* 406. 1, and *H. ox.* xii. 5. 12.—*Ger.* 355.—*Barr.* 51. 1, and according to *Hall. Barr.* 52. 1 and 2.—*J. B.* iii. 524. 1.

Blossoms blue.

Calathian Violet.

Moist pastures. [Stratton Heath, Norfolk. Mr. CROWE.]

GENTIA'NA *Centau'rium*. Blossom with 5 clefts, *Centory* funnel-shaped. Stem forked. Pointal simple.—

Chironia Centaurium, which see.

autumnal GENTIA'NA *Amarel'la*. Blossom with 5 clefts, falver-shaped; mouth bearded. LINN.—Segments of the empalement equal. HALL. Mr. WOODW.—Blossom with sometimes 4 and 3 clefts. RETZ. &c.

Fl. dan. 328.—*Walc.*—*Clus. i.* 316. 1, repr. in *Ger. em.* 437, and cop. in *Parh.* 406. 3.—*H. ox. xii.* 5. 3.—*Ger.* 354. 1.—*Barr.* 510. 1.—*J. B. iii.* 526. 2 and 3.—(*J. B. ib.* 1, improved in *Barr.* 510. 2, seems to be a different plant.—*Barr.* 97. 2, is *G. campestris*.)

So nearly allied to *G. campestris*, that it is scarcely distinguishable, except by the empalement. LINN.—Lower-flowers often with 4 divisions. RETZ. Mr. WOODW. Mr. WOOD. ST.—In plants which had been bitten down and shot up afresh. Mr. WOODW. ST.—And the empalement sometimes with only 3. ST.—Stem somewhat angular. Lower-branches not longer than the leaves; the upper in general much shorter. Leaves spear-shaped. Flowers in bunches, terminating the branches. Empalement, segments awl-shaped. Mr. WOODWARD.—Bloss. blue.

Fellwort.—Dry pastures. [Boughton Heath, Huntingdonshire; and Dunstable Hills. Mr. WOODWARD.—About Gordale, below the waterfall. Mr. Wood.] A. July. Aug.

Sheep eat it. Horses refuse it.

2, Blossoms with 4 clefts. Mr. WOODWARD. ST.

Walc. named *G. campestris*.

field GENTIA'NA *campestris*. Blossom with 4 clefts; mouth bearded. LINN.—Empal. of 4 leaves, alternately larger. REICH. Mr. WOODW. Mr. WOOD. ST. WITH.

Fl. dan. 367, (but larger than it grows with us. Mr. Woodward.)—*Barr.* 97. 2.—*H. ox. xii.* 5. row 3. 9.—(*Walc.* *G. campestris* is *G. amarella*, variety 2.)

Empalement 1 leaf, but divided more than half way down; the 2 outer opposite segments flat, upright, twice as broad as those between them. Chives 4. Very nearly allied to the *G. amarella*. LINN.—Stem nearly square, branched; branches longer than the leaves. Leaves shorter, and not so sharp-pointed as in *G. amarella*. Flowers larger and more scattered, Empal. leaves distinct, or merely adhering at the base; the 2 outer egg-shaped; the inner spear-shaped, somewhat membranaceous, not more than $\frac{1}{4}$ th the breadth of the outer. Bloss. segments not so much expanded as in *G. amarella*. Mr. WOODWARD.—Stem scored. Leaves spear-egg-shaped, opposite, half embracing the stem, with 3 ribs; the upper pairs distant; lower ones near together, and those near the root lying on the ground. Flowers solitary. Fruit-stalks stiff, slender, from the bosom

posom of the leaves, parallel to the stem. *Empal.* leaves spear-shaped, finely serrated at the edge with white teeth. *Bloss.* tubular, longer than the cup, greenish, and ribbed, but purple at the mouth; *segments* broad, spear-shaped, pointed, lined within with scales ending in long whitish taper glandular hairs. *Chives* covered by the hairy scales which close the mouth of the tube. *Threads* greenish, fixed to the blossom. *Tips* brown. *Dust* yellowish green, egg-shaped. *Seed-bud* above. *Summits* spear-shaped, flat, lying close to each other. *Seeds* in 4 longitudinal rows. *Stem* upright. *Bloss.* blue; terminating. *Root-leaves* spear-shaped, lying on the ground. WITH.

Mountainous pastures. About Kendal. RAY and Mr. WOODW.—Llanberys, Wales, and Perian Round, Cornwall. HUDS.—[Sea coast, Cheshire. Stratton Heath, Norfolk. Mr. CROWE.—Among the high rocks *above* the waterfall in Gordale. Mr. WOOD.]—A. Apr.—June. RAY.—Aug. HUDS.—And in a garden in October. WITH.

* Poor people sometimes use it instead of hops.

GENTIANA *flifor'mis*. Blossoms with 4 clefts, *leaf* not bearded. Stem thread-shaped; forked.—

Fl. dan. 324.—*Gifek.* 64.—*Vaill.* 6. 3.

Bloss. yellow, generally closed; funnel-shaped; on long fruit-stalks. *Chives* 4.

Marsh Centory.—Marshes in Cornwall. Near St. Ives. A. July.

354. ERYNG'IUM. Eryngo.

EMPAL. *Common Receptacle* conical; florets sitting; separated by chaff. *Fence* of the receptacle flat; of many leaves; longer than the florets. *Cup* 5 leaves; upright; sharp; longer than the blossom; sitting on the seed-bud.

BLOSS. *General*; uniform; roundish. *Florets* all fertile. *Individuals* of 5 oblong petals; with the points bent inwards towards the base; and contracted by a line running lengthways.

CHIVES. *Threads* 5; hair-like; straight; longer than the florets. *Tips* oblong.

POINT. *Seed-bud* beneath; rough with hair. *Shafts* 2; thread-shaped; straight; as long as the chives. *Summits* simple.

S. VESS. *Fruit* egg-shaped; divisible into 2 parts.

SEEDS. Oblong; cylindrical.

ESS. CHAR. *Flowers in heads. Receptacle chaffy.*

OBS. In some species the seeds fall out of the seed-vessel; in others they continue inclosed within it.

sea ERYNG'IUM *maritimum*. Root-leaves roundish, plaited, thorny. Flowering heads on fruit-stalks. Chaff with 3 points.—

Fl. dan. 875.—*Blackw.* 297 1 and 11.—*Matth.* 680.—*Clus.* ii. 159. 2, repr. in *Dod.* 730. 1, *Lob. obs.* 490. 1, *Ger. em.* 1162. 1, and cop. in *Pet.* 999. 1, *Park.* 986. 1, and *H. ox.* vii. 36. 6.—*J. B.* iii. a. 86. 2.

Root-leaves, and lower-stem-leaves with 3 clefts, on fruit-stalks; the upper embracing the stem. Leaf-stalks embracing the stem. Mr. WOODWARD. ST.—Bloss. whitish, or blue.

Sea Holly.—Sea shore. [At Yarmouth. Mr. WOODW.—And on the sands at Hayle, Portawen, Portreath, and Penzance, Cornwall. Mr. WATT.] P. July. Aug.

The leaves are sweetish, with a light aromatic warmth and pungency. The roots are supposed to have the same aphrodisiac virtues as the Orchis tribe. They are kept in the shops, candied. The young flowering shoots eaten like asparagus are very grateful and nourishing.

common ERYNG'IUM *campestre*. Root-leaves embracing the stem, winged, spear-shaped.—

Jacq. austr. ii. 155.—*Fuch.* 296, cop. in *J. B.* iii. a. 85.—*Matth.* 679.—*Fl. dan.* 554.—*Blackw.* 297. 2, a head.—*Ger.* 999. 2.—*Clus.* ii. 157. 2, repr. in *Dod.* 730. 2, *Lob. obs.* 490. 2, *Ger. em.* 1162. 2, and cop. in *Park.* 986. 2, and *H. ox.* vii. 36. row 2. n. 1. f. 2.—*Trag.* 871.—(*Blackw.* 297. 1, is *E. maritimum*.)

Fences spear-shaped, longer than the head. GOUAN.—Root-leaves on leaf-stalks; upper-leaves embracing the stem. POLLICH. Mr. WOODWARD. ST.—Lower-stem-leaves on leaf-stalks. Root-leaves and lower-stem-leaves doubly and trebly divided into winged clefts. Leaf-stalks long, sheathing the stem at the base. Mr. WOODWARD. ST.—Stem long, trailing, bearing numerous heads of flowers. Mr. WOODWARD.—Fence-leaves awl-shaped. MATTUSCH. ST.—Very entire, and toothed in the same plant. Lower-leaves winged, the base of each pair of wings running down the leaf-stalk almost close to the insertion of the pair below it; wings with winged clefts; clefts cut, and toothed with thorny teeth. ST.—Petals blue; sometimes white, or yellowish.

Eryngium. *Blackw.* a *Trew n.* 297. ST.

Pastures

Pastures on the sea coast, and at Brookhall, not far from
 Daventry, in Northamptonshire. P. July. 'Aug.

355. HYDROCOT'YLE. Pennywort.

Rundle simple.

EMPAL. *Fence* frequently of 4 leaves; small. *Cup* hardly perceptible.

BLOSS. *General*; uniform in figure, but not in situation. *Florets* all fertile. *Individuals*, of 5 petals; egg-shaped; sharp; entire; expanding.

CHIVES. *Threads* 5; awl-shaped; shorter than the bloss. *Tips* very small.

POINT. *Seed-bud* beneath; upright; compressed; round; the fruit-stalks fixed to its centre. *Shafts* 2; awl-shaped; very short. *Summits* simple.

3. VESS. None. *Fruit* compressed; round; divisible cross-wise into 2 parts.

SEEDS. 2; compressed; in the shape of a half-moon.

ESS. CHAR. *Rundle* simple. *Fence* of 4 leaves. *Petals* entire. *Seeds* semi-circular; flattened.

HYDROCOT'YLE *vulgaris*. Leaves target-shaped. *marsh*
Rundles of 5 flowers.—

Fl. dan. 90.—*Dod.* 133. 1, repr. in *Lob. obs.* 209. 4, *Ger. em.* 529. 5, and cop. in *Ger.* 424. 3, *Park.* 1214, and *Pet.* 6. 12.

Rundle simple, proliferous from the centre. *Shafts* distant. LINN.
 —*Leaves* scolloped. *Fruit-stalks* slender, much shorter than the leaf-stalks. MR. WOODWARD. WITH.—*Fruit-stalks* naked. MR. WOODWARD.—*Stems* creeping. *Leaves* circular, smooth. *Leaf-stalks* smooth, cylindrical. *Fruit-stalks* from the base of the leaf-stalks. *Rundles*, 2 on a fruit-stalk, 1 springing out of the other, each containing from 4 to 6 flowers. *Flowers* opening at different times. *Pedicles* fixed to the base of the seed-bud. *Fence* and *petals* reddish white. *Tips* yellow. WITH.

Pennywort. *White Rot*.—Marshy grounds. P. May. June.

The farmers suppose it occasions the rot in Sheep. (See *Pinguicula vulgaris*.)

356. SANIC'ULA. Sanicle.

Rundle with very few spokes; generally 4. *Rundlets* with many spokes crowded into heads.

EMPAL. *General Fence* going half way round on the outer side. *Partial Fence* going quite round; shorter than the florets, *Cup* scarcely perceptible.

BLOSS. *General*; uniform. The *florets* in the centre barren. *Individuals*, petals 5; compressed; bent inwards so as to close the flower.

CHIVES. *Threads* 5; simple; upright; twice as long as the petals. *Tips* roundish.

POINT. *Seed-bud* beneath; rough with stiff hairs. *Shafts* 2; awl-shaped; reflected. *Summits* sharp.

S. VESS. None. *Fruit* egg-shaped; sharp; rough; dividing into 2.

SEEDS. 2; convex and prickly on 1 side; flat on the other.

ESS. CHAR. *Rundles* crowded, in a sort of heads. *Fruit* rough. *Flowers* of the centre barren.

Obs. I do not regard this and the *Hydrocotyle* as true umbelliferous or rundled plants, but rather as forming the connecting link between *Astrantia* in the order *Umbelliferae*, and *Panax* and *Aralia* in the *Hederaceae*. ST.

common SANIC'ULA *europæa*. Root-leaves simple. Florets all sitting.—

Fl. dan. 283, leaf and head of flowers.—*Blackw.* 63.—*Walc.*—*Fuchf.* 671, cop. in *Trag.* 509.—*Dod.* 140. 1, repr. in *Ger. em.* 948.—*Ger.* 801.—*Col. phytob.* 16.—*H. ox.* v. 34. row 3. 1.—*Lob. obs.* 378. 2, cop. in *Park.* 532. 1.—*Matth.* 1019.

Stems cylindrical, scored. *Root-leaves* divided into 5 parts, thinning underneath; *segments* jagged, and terminated by a little thorn. *Leaf-stalks* flattened and grooved on one side. *General fence* of 3 leaves; *leaves* divided into 3; *segments* jagged. *Rundle*, the outer spokes often sub-dividing into 2 or 3, at the base of each of which there is a *general fence* of 2 leaves, each divided into 3, going all round. *Partial fence* of 7 to 12 equal, spear-shaped leaves, *Empal.* cup of 1 leaf, divided into 5 pointed segments; in the barren florets very evident; but not so in those with chives and pointals, on account of an awl-shaped substance placed below it. *Petals* white, fleshy. *Tips* oblong. *Shafts* before flowering upright, purple above. In the barren florets no pointal, but in its place a concave white gland filled with honey, similar to what crowns the seed-

Seed-bud in the flowers with chives and pointals. Leaves dark green. WITH.

Woods and hedges.

P. May. June.

A French proverb says, "He who is possessed of Bugle and Sanicle, may dismiss his surgeons;" but modern practice gives no countenance to such an assertion. The leaves are slightly bitter, aromatic, and astringent,

Sheep eat it. Goats are not fond of it. Horses refuse it.

358. BUPLEU'RUM. Throw-wax.

Rundle with fewer than 10 spokes. Rundlets with about 10 upright expanding spokes.

EMPAL. General Fence of many leaves. Partial Fence larger. Leaves 5; expanding; egg-shaped; sharp. Cup not discernible.

BLOSS. General, uniform. Florets all fertile. Individuals; petals 5; very short; entire; rolled inwards.

CHIVES. Threads 5; simple. Tips roundish.

POINT. Seed-bud beneath. Shafts 2; reflected; small. Summits very small.

S. VESS. None. Fruit roundish; compressed; scored; divisible into 2.

SEEDS. 2; oblong egg-shaped; convex and scored on one side; flat on the other.

ESS. CHAR. Partial Fence the largest; of 5 leaves. Petals rolled in. Fruit roundish; flattened; scored.

BUPLEU'RUM *rotundifolium*. No general fence. common. Leaves perforated.—

Ger. 430. 1.—Matth. 1156.—Fuchf. 632, cop. in Trag. 482.—

Blackw. 95.—H. ox. ix. 12. 1.—Dod. 104. 1, repr. in Ger.

em. 536. 1, and cop. in Fark. 580. 1.—J. B. iii. 6. 198. 1.—

[Moris. umb. t. 8, a good figure. Mr. Woodward.]

Partial fence egg-shaped, sharp-pointed. LINN.—Lower-leaves embracing the stem. POLlich. MR. WOODWARD.—Partial fence of 3 or 5 leaves; longer than the spokes. MR. WOODW.—Leaves smooth, bluish green. Petals yellowish.

Cornfields. [Marham, Norfolk. MR. CROWE.—Carlby, between Stamford and Bourn. MR. WOODWARD.] A. July.

BUPLEU'RUM *tenuifolium*. Rundles simple, alternate, of 5 leaves, and about 3 flowers.—

J. B.

J. B. iii. 6. 201. 2.—*H. ox.* ix. 12. row 3, 4.

Stem very much branched. *Branches* alternate. *General fence* of 3 short leaves. *Partial fence* with short bristle-shaped leaves. *Rundles* at the base of the leaves. *Leaves* strap-shaped; sharp. *Petals* yellowish. LINN.—*General fence*, leaves awl-shaped, unequal; *partial* of 5 leaves, longer than the spokes. MR. WOODWARD.

Bupleurum minimum. RAY. *syn.* 221.

Meadows and pastures. [Salt ditches, near Lynn Regis. Dr. SMITH. MR. PITCHFORD.—Maldon, Essex.] A. July. Aug.

359. ECHINOPH'ORA. Pricklenep.

Rundle of many spokes; the intermediate ones shortest.

Rundlets of many florets; those in the centre sitting.

EMPAL. *General Fence* of several sharp leaves. *Partial Fence* turban-shaped; of 1 leaf; with 6 clefts; sharp; unequal. *Cup* very small; with 5 teeth; permanent.

BLOSS. *General*; irregular in its shape and unequal. The *florets* which have only chives, barren. *General florets* fertile. *Individuals*, of 5 unequal petals; standing open.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath; oblong; involved in the fence.

Shafts 2; simple. *Summits* simple.

S. VESS. None; but instead thereof the fence grows hard and sharp-pointed, and incloses the seed.

SEED. Single; oblong-egg-shaped.

ESS. CHAR. *Lateral florets* with only chives, the central one with chives and pointal. *Seed* 1, embedded in the partial fence.

thorny ECHINOPH'ORA *spinosa*. Little-leaves awl-shaped, thorny, very entire.—

Matth. 490, *cop.* in *Ger.* 427.—*Dod.* 705. 2, *repr.* in *Lcb. obs.* 408. 2, *Ger. em.* 533. 2, and *cop.* in *Fark.* 1286. 3.

Petals white; or reddish.

Thorny or prickly *Samphire*. *Sea Parsnep*.

Sea coast. At Roosebeck Low Furness, Lancash. RAY. where I searched for it, which has been frequently done by a person resident near that place, but without success. MR. WOODWARD.—Between Feversham and Sea Salter. BLACKSTONE.

361. TORDYL'IUM. Hartwort.

Rundle unequal; of many spokes. *Rundlets* unequal; of many parts; very short; flat.

EMPAL. *General Fence*; the *little-leaves* slender; undivided; frequently as long as the *rundle*. *Partial Fence* going half way round; outwardly longer than the *rundlet*. *Cup* with 5 teeth.

BLOSS. *General*, irregular in its shape, and unequal. *Florets* all fertile. *Individuals in the centre*, with 5 equal petals; heart-shaped, but bent inwards; *those of the circumference* like the others; but the outermost petal largest, and deeply divided.

CHIVES. *Threads* hair-like; 5 in every *floret*. *Tips* simple.

POINT. *Seed-bud* beneath; in all the *florets*, roundish. *Shafts* 2; small. *Summits* blunt.

S. VESS. *Fruit* roundish; almost flat, a little scolloped at the edge; divisible into 2 parts.

SEEDS. 2; roundish; almost flat; but raised and scolloped at the edge.

ESS. CHAR. *Radiated*. All the flowers with *chives* and *pointals*. *Fruit* roundish, notched at the edge. *Fences* long, undivided.

Obs. Differs from *Caucalis* principally in all the *florets* being fertile, but in *T. anthriscus* the *rundle* is somewhat radiated, and the *florets* in the centre of the *rundlets* have only *chives*. LINN.

TORDYL'IUM officinale. Partial fences as long as small the flowers. Little leaves egg-shaped, jagged.—

Dod. 314, repr. in Lob. obs. 425. 1, Ger. em. 1050. 1, and cop.

in J. B. iii. 6. 84. 2, and ill cop. in Park. 906. 8.—Ger. 894.

Stem nearly smooth, round, scored. *Lower-leaves* with 2 pair of *little-leaves*; *little-leaves* hairy, on leaf-stalks, the odd one at the end with 3 lobes; *those of the upper-leaves* spear or strap-spear-shaped, deeply serrated. *Florets* tinged with purple. *Seeds* large, flat, with broad, raised, notched edges. Mr. WOODW.—Which last circumstance required that it should be kept distinct from the other English species. These Mr. Hudson has accordingly very properly removed to the genus *Caucalis*. Mr. WOODWARD. ST.

Corn fields. On the banks of the road to Heddington about $\frac{1}{2}$ a mile from Oxford. SHERARD in R. syn.—[Shewn me growing near Oxford by Mr. Newberry, but not on the road to Heddington. Mr. WOODWARD.]

TOR-

hedge **TORDYL'IUM** *Anthrif'cus*. Rundles crowded. Little-leaves egg-spear-shaped, with winged clefts.—

Caucalis Anthrifcus. HUDS. which see.

Stem rough, hairs pointed, stiff, pressed back; while those of the *spokes of the rundles* are upright. *General fence* of several leaves, regular, sometimes of 1 leaf; *leaves* simple. *Seed-bud* rough with hair; hairs purplish. *Rundle* somewhat radiated. *Rundlets*, the florets of the centre with only chives. *Bloss.* not radiated, white, red underneath. LINN.—Some florets without chives. HALL.

knotted **TORDYL'IUM** *nodo'sum*. Rundles simple, fitting. The outer seeds rough.—

Caucalis nodosa. HUDS. which see.

362. CAU'CALIS. Hensfoot.

Rundle unequal; of very few spokes. *Rundlets* unequal, with more spokes; the 5 outermost of which are the longest.

EMPAL. *General Fence* with the leaves undivided; short; membranaceous at the edges; egg-spear-shaped; equal in number to the spokes of the rundle. *Partial Fence* with leaves similar to the foregoing; longer than the spokes; generally 5 in number. *Cup* with 5 teeth, standing out.

BLOSS. *General*; irregular in its shape, and unequal. *Florets* in the centre barren. *Individuals in the centre*, without pointals; small; petals 5; equal; heart-shaped, but bent inwards; *in the circumference*, with both chives and pointals. *Petals* 5; heart-shaped; bent inwards; the outermost the largest, and cloven.

CHIVES. *Threads* hairlike; 5 in all the florets. *Tips* small.

POINT. *Seed-bud* beneath; in the florets of the circumference oblong and rough. *Shafts* 2; awl-shaped. *Summits* 2: blunt; expanding.

S. VESS. *Fruit* oblong-egg-shaped; scored lengthways; rough with bristly hairs.

SEEDS. 2; oblong; flat on 1 side; convex on the other; armed with awl-shaped prickles placed along the scores.

ESS. CHAR. *Blossoms* radiated; those in the centre with only chives. *Petals* nicked, and bent inwards. *Fruit* rough with bristles. *Fences* entire.

CAU'CALIS

CAU'CALIS *daucoides*. Rundles cloven into 5, *small* leaf-lets. Rundlets with 3 seeds, and 3 leaves. LINN.—Prickles of the seeds smooth. ST.*

Jacq. *austr.* ii. 157.—H. *ox.* ix. 14. 6.—Pet. 27. 8.—J. B. iii. 6. 80. 1.—Park. 920. 6.

Stem very much straddling, spreading, angular, scored, rough with hair. Leaves those of the *Daucus*, but fewer. Fruit-stalks smooth, very long. Rundle cloven into 3 or 5. Rundlets sitting, generally 3. Fence none. Fencelets of 3 leaves. Florets equal, not radiated, reddish, most of them barren. LINN.—Fruit generally 3 to each rundle, straddling, crowned with the cup, oblong, with prickles. Prickles hooked, at some distance from each other, smooth. LINN. ST.—Seeds large. Leaves finely divided. DAY. MR. WOODWARD. ST.—Leaves more than doubly compound, extremely elegant. General and partial rundles with sometimes 4 spokes. Partial fence of mostly 5 leaves. Little rundles with sometimes 4 and 2 seeds. MR. WOODWARD.—*C. daucoides* sp. pl. appears to have been a distinct plant from that of the subsequent works, and it should seem a variety of *C. grandiflora*. ST.

Caucalis leptophylla. HUDS. ed. I.

Fine-leaved Bastard Parsley.

Corn fields and barren spots. [Marham, Norf. MR. CROWE.

—Carlby between Stamford and Bourn. MR. WOODWARD.]

CAU'CALIS *latifolia*. General rundle cloven into *broad-leaved* 3; the partial ones with 5 seeds. Leaves winged, serrated.—

Jacq. *hort.* ii. 128.—Mill. 85, leaves not so well done as in those which follow.—Garid. 22, at p. 146.—H. *ox.* ix. 14. row 1, middle figure.—J. B. iii. 6. 80. 2.—Pet. 27. 6. †—Park. 920, the 2 uppermost of the smaller figures at n. 6. 7.

Stem angular, and as is the whole plant and leaf stalks, rough with flat prickles. Little-leaves spear-shaped. Rundles with 3 and 4 spokes. Rundlets sitting. All the fences egg-shaped, skinny, as long

25

* *Aculeis seminum lævibus*.—Add to the character of *C. leptophylla*, "Prickles of the seeds rough," (*aculeis seminum scabris*,) which circumstance appears to afford a more certain mark of distinction than the fence or the spokes of the rundle. For the *C. daucoides* has sometimes rundles with 5 rays, and a fence of 1 leaf; and the fence of the *C. leptophylla* is only generally wanting, and I have a specimen of it in which the rundles consist of 3 spokes. ST.

† Pet. 27. 7, *Echinophora laciniata*. R. syn. 219, may possibly prove a var. of it. ST.

as the spokes;* the *general* one from 3 to 5 leaves; the *partial* of 5. *Florets* equal, white; many of them barren. *Fruit* 5 in each rundle, rough with prickles; *prickles* very rough with minute reflected prickles. LINN. ST.—*Strigæ*, or strong spear-shaped bristles, pointing upwards. *Little-leaves*, the lower almost with winged clefts, the upper confluent with the mid-rib. *Leaf-stalks* membranaceous and skinny at the edge. *Bloss.* tinged with purple; *outer petal* larger than the rest. MR. WOODWARD. ST.

Corn fields. Crooks Easton, Hampshire. HUDS.—[Between Cambridge and Gogmagog Hills. MR. WOODWARD.] A. July.

corn CAU'CALIS *arvensis*. General fence of 1 leaf. Rundle crowded. Seeds roundish-egg-shaped. Little-leaves egg-spear-shaped, with winged clefts. Branches straddling. HUDS. MR. WOODWARD. ST.

Jacq. austr. ii. 46.—Pet. 27. 10.

Stem about a foot, and seldom, if ever, more than a cubit high; knots more frequent than in *C. anthriscus*; and less hairy towards the root. *Bloss.* white, with a cast of yellow. Never found in hedges, and mostly in corn fields. RAY. ST.—*Branches* numerous, alternate, very much straddling. *Seeds* rough with strong hair. MR. WOODWARD.—*Stem* smooth towards the root, above roughish with minute short hairs, lying close to the stem and branches. *Branches* more expanding than in *C. anthriscus*, and sometimes straddling. *Rundle* with 5, and sometimes 4 or 3 rays. *Seeds*, inner and outer alike; *hairs* bowed upwards, rough with minute points, and generally terminated by a hooked point. ST.

Scandix infesta. LINN. according to JACQ. HUDS. and ROTH. but not so according to REICH.

Chalky corn fields. HUDS.—And in clay also. ST.

A. July. Aug.

hedge CAU'CALIS *Anthriscus*. Fences cloven into many parts. Rundle crowded. Seeds oblong. Little-leaves egg-shaped, with winged clefts. Branches upright. HUDS. LIGHTFOOT. WIGGERS. MR. WOODWARD. ST.

Jacq. austr. iii. 261.—*C. B.* pr. 80, cop. in Ger. cm. 1022. 5, which cop. in Park. 921. 9, and Pet. 27. 9.—*J. B.* iii. 6. 83. 1, cop. in H. ox. ix. 14. 8.

Stem, hairs white, short. *Leaves* hairy, with about 2 pair of leaflets; the terminating leaflet very long. *General fence*, leaves strap-

* General fence many times shorter than the spokes. ST.

nap-shaped, from 5 to 8, not half the length of the rundle.
 Rundle, spokes 8 to 10. *Partial fence*, leaves spear-shaped, sur-
 rounding, and of the length of the rundlet. *Empalement*, teeth
 tapering to a fine point. *Florets* all fertile. WITH.

Tordylium Anthriscus. LINN. which see.

Hedge Parsley.

Hedges.

B. Aug.

Horses are extremely fond of it.

CAU'CALIS *nodo'sa*. Rundles fitting, at the *knotted*
 knots of the stem. Rays unequal. SCOP.—Rundles late-
 al, simple, fitting. HUDS. Mr. WOODW. ST.—Rundles
 sometimes on short fruit-stalks. Mr. WOODWARD. ST.

Jacq. austr. app. 24.—Ger. em. 1022. 6, cop. in H. ox. ix. 14. 10,
 and Pet. 27. 11.—J. B. iii. 6. 83. 2.

Leaves finely divided, with a slight hairiness on each side. Run-
 des opposite to the leaves. The inner feeds rough with wart-like
 points. SCOP. ST.—Resembling shagreen. Mr. WOODW. ST.—
 The whole plant rigid. Hairs of the feeds straight to the point, rough
 with minute prickles, pointing backwards. In a specimen from
 Montpellier all the feeds rough with strong hair. ST.

Caucalis pumila fegetum Goodyero Ger. em. 1022.

Borders of corn fields.

A. May.—July.

CAU'CALIS *Caro'ta*. CRANTZ.—General fence of Carrot
 several leaves, with winged clefts. When out of flower
 the spokes of the rundles approaching. Leaves more
 than doubly compound. Leaf-stalks stringy underneath.
 HUDS. Mr. WOODWARD.—But the winged fence, as well
 as habit, confirm the arrangement of Linnæus and Haller.
 ST.

Daucus Carota, which see.

364. DAU'CUS. Carrot.

Rundle of many spokes; flat while in flower, but when in fruit concave and approaching. *Rundlets* similar to the foregoing,

EMPAL. *General Fence* of many leaves; as long as the rundle; the leaves strap-shaped, with winged clefts. *Partial Fence* more simple; as long as the rundlet. *Cup* hardly perceptible.

BLOSS. *General*, irregular in its shape, and unequal. *Florets* in the centre barren. *Individuals*, petals 5, heart-shaped, bent inwards; the outermost the largest.

CHIVES. *Threads* 5; hair-like. *Tips* simple.

POINT. *Seed-bud* beneath; small. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; divisible into 2; generally beset with inflexible hairs.

SEEDS. 2; somewhat egg-shaped; convex, and rough with hairs on one side; flat on the other.

ESS. CHAR. *Blossom* somewhat radiated, all with chives and pointals. *Fruit* rough with strong hairs. LINN.—*Flowers* of the centre abortive. REICH. *Syst. pl.*—The winged fence very justly forms a part of the generic character. HALL. ST.

common. DAU'CUS *Carota*. Seeds rough with strong hairs. Leaf-stalks stringy underneath.—

Ludw. 9.—*Fl. dan.* 723.—*Blackw.* 546.—*Ger.* 873, ripe rundles.

—*Matth.* 748, imitated by *Dod.* 679, repr. in *Lob. obs.* 416. 2,

Ger. em. 1028, and cop. in *Park.* 902. 1, in fruit.—*Fuchf.*

684, divisions of leaves too broad; ill cop. in *J. B.* iii. 6. 62.—

H. ox. ix. 13. 2.—*Trag.* 440.

Flowers in the circumference often barren, and often with only pointals; those of the centre with chives and pointals. POLLICH.—The floret in the centre of the rundle often of a deep crimson, and producing a seed to all appearance perfect. ST. in ed. i.—*Petals* white. *Stems* furrowed, rough with hairs. *Fencelets* strap-spear-shaped. *Rundle* when out of flower concave; spokes 40. *Rundlets*, spokes 30. *Flowers* white, those in the middle of the rundle sometimes purplish. RELH.

Caucalis Carota. CRANTZ. &c. which see.

Bird's Nest.

Meadows and pastures.

B. June.—Aug.
The

The seeds have been sometimes used as diuretics and carminatives; and are highly recommended in calculous complaints. **WITH.**—An infusion of them has been found to afford relief in sharp fits of the gravel. **MR. WOODWARD.**—It proved very beneficial in the case of a lady who passed calculi of considerable size. **ST.**

2. This in its cultivated state is the well known garden carrot, whose roots are eaten either boiled or raw. When raw, they are given to children troubled with worms. They seem to pass thro' most people but little changed. **WITH.**—On which account I have employed them as a means of ascertaining the time which food takes to pass through the tract of the alimentary canal. **ST.**—They are a grateful and nutritious food to all kinds of cattle, and well worthy of a more general cultivation for the purpose of the farmer. Crickets are very fond of them, and are easily destroyed by making a paste of powdered arsenic, wheat meal, and scraped carrots, which must be placed near their habitations. A poultice made of the roots has been found to mitigate the pain, and abate the stench of foul and cancerous ulcers.

3. Leaves of a dark green, glossy.

Sea shore, near Dover. **RAY**, p. 218. n. 3.

In a specimen from the coast of Cornwall the leaflets are remarkably broad, and but slightly cut. **ST.**

366. BU'NIUM. Pignut.

Rundle with fewer than 20 spokes. *Rundlets* very short; crowded.

TEMPAL. *General Fence* of many strap-shaped short leaves.

Partial Fence bristly; as long as the rundlet. *Cup* hardly discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*; petals 5; equal; heart-shaped; bent inwards.

CHIVES. *Threads* 5; shorter than the petals. *Tips* simple.

POINT. *Seed-bud* beneath; oblong. *Shafts* 2; reflected. *Summits* blunt.

6. VESS. None. *Fruit* egg-shaped; divisible into 2 parts.

SEEDS. 2; egg-shaped; convex on one side; flat on the other.

ESS. CHAR. *Blossom* uniform. *Rundle* crowded. *Fruit* oval.

BU'NIUM *Bulbocastanum*. *Sp. pl. and Syst. veget.*— *greater Fence* of many leaves. *Syst. pl. a REICH.*—Leaves uniform.

Fruit nearly cylindrical, thicker towards the end. Shafts bent back, falling off. **GOUAN.**—Stem thickening at the base. **ST.**

Fl. dan. 220.*—*Barr.* 244.—*Dod.* 334. 1, repr. in *Lob. obs.* 429. 2, ic. i. 745. 1, *Ger. em.* 1064. 2, and cop. in *Park.* 893, *Ger.* 906. 1, *H. ox.* ix. 2. row 2, fig. 2d, n. 1, and *Pet.* 25. 9.—*J. B.* iii. 6. 30.—*Ger.* 906. 2.—*Matth.* 866, root and leaves.

I insert this species on the authority of Ray; add to which, that Mr. Hudson admits the figures referred to by Linnæus. **ST.**

Bunium minus. **GOUAN.** illustr. 10, as is evident from the general fence observable in the figures referred to by Linnæus and C. B. —*Bulbocastanum alterum caule firmiore.* **BARR.** (**ST.**)

In a field between Hornsey Wood and Old Fall, near the footpath. **MARTYN** in *R. syn. ed.* III.—[Worsbrough near Barnesley? **Mr. E. COCKSHUT.**]

lesser **BU'NIUM flexuosum.** Stem at the base tapering downwards, and zigzag. **ST.**‡—Stem-leaves very narrow. General fence wanting. Fruit egg-shaped, taper-pointed. Shafts permanent. **GOUAN.**—*But sometimes a general fence of from 1 to 3 leaves.* **ST.**

Curt. 4. 46.—*Ger. em.* 1064. 1.—*Tourn.* 161. 2.

From the root, which groweth 4 or 5 inches deep in the earth, riseth up a long, slender, whitish string or stalk, not always straight, but folding or crumpling itself to and fro unto the top of the ground, from whence it riseth a little bigger. **PARK.** **ST.**—The greater and lesser *Bulbocastanum* appear to be distinct species. The lesser is common, but the greater rare. Johnson in his *Ger.* has well distinguished them. **MARTYN** in *R. syn.*—Root tuberous. **RELH.**—Root-leaves on long leaf-stalks, trebly winged, generally 3, appearing before the stem; little-leaves spear-shaped, simple, or cloven into 3. Stem-leaves doubly winged; little-leaves strap-shaped, not wider than the mid-rib; simple, or cloven into 3. **Mr. W.**—Stem smooth, scored, but little branched. Leaves doubly winged; segments very slender, and tapering to a point. General fence seldom of more than 1 or 2 very slender leaves, but in most instances altogether wanting, and after examining above 50 plants growing in different soils both in woods and open pastures, I could never find more than one with any general fence after the blossoms were opened.

* Does not resemble our plant, being much branched, and the leaves differing both in shape and division. **Mr. WOODWARD.**

‡ Caule basi attenuato flexuoso. **ST.**

opened. *Partial fence* mostly shorter than the rundlet, of 3 or 4 very small spear-shaped leaves. *Rundle*, spokes 8 to 12. *Rundlets*; spokes about 16. *Petals* spear-shaped, rolled inwards. *Threads* longer than the petals. *Shafts*, at first close, afterwards straddling, but never bent back. WITH. ST.—*Roots* bulbous. *Petals* white.

Nucula terrestris minor. PARK.—*Bunium majus*. GOUAN. illustr. 10, an improper name, as the *Bulbocastanum majus* fol. apii of C. B. is the *B. Bulbocastanum* of Linnæus. ST.

Earth, Kipper, Pig, Hawk, or Jur-nut. Earth Chesnut.

Meadows, pastures, orchards, and woods. P. May. June.

The roots eaten either raw, boiled, or roasted, are very little inferior to Chesnuts, and would be an agreeable addition to our winter deserts. WITH.

367. CO'NIUM. Hemlock.

Rundle of many spokes; expanding. *Rundlets* the same.

EMPAL. *General Fence* of many leaves; very short; unequal. *Partial Fence* the same. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Individuals*; petals 5; unequal; heart-shaped, but bent inwards.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* nearly globular; with 5 scolloped ridges; divisible into 2 parts.

SEEDS. 2; convex on one side; almost hemispherical; scored; flat on the other side.

ESS. CHAR. *Fencelets* going half way round, generally of 3 leaves. *Fruit* nearly globular, with 5 scores, notched on each side.

CO'NIUM macula'tum. Seeds scored.—

common

Curt. i. 7, seeds represented as fringed with short hairs.—Jacq. austr.

ii. 156.—Storck, seeds not notched.—Gent. Mag. 1762. p. 273.

—Clus. ii. 200. 2, repr. in Dod. 461, Lob. obs. 422. 1; ic.

i. 732. 1, Ger. em. 1061, and cop. in Park. 933. 1.—H. ox.

ix. 6. row 3. 1.—Blackw. 573. a. 6.—Fuchf. 406, cop. in J.

B. iii. 6. 175. 3.—Trag. 474.—Matth. 1098, possibly cop. in

Ger. 903. 1.—Blackw. 451.

Stems and branches shining, spotted and streaked with brownish or blackish purple. *Partial fence* of 1 leaf, divided into 3 and 4; segments at the edges white and membranaceous. *Outer petals* the largest. *Petals* white. WITH.

Kex.—Hedges, orchards, rubbish, cultivated ground, and dunghills. B. June. July.

The whole plant is poisonous, and many instances are recorded of its deleterious effects; but modern experience has proved it to be less virulent than was formerly imagined. Dr. Storck, of Vienna, was the first who ventured to give it internally in considerable quantities, and from his account of its good effects in a variety of cases, particularly in cancers and schirrous tumours, it has been very generally employed in this kingdom. He directs an extract to be prepared from it by evaporating the expressed juice over the fire, and then adding a sufficient quantity of the powdered leaves to form it into pills. He generally gave from 2 to 12 grains for a dose, but some have taken it in much larger quantities. By the accounts from Vienna, the expectations of the world were raised to a very high pitch; and, as is then generally the case, these expectations have been disappointed; so that after a very extensive application of it for several years, it is now likely to be entirely disregarded, as a medicine of little or no use. Perhaps, however, the truth will be found to lie in the medium between the two opinions. Many reasons may be assigned to shew that it has yet undergone but an imperfect trial; some of which I shall beg leave to mention.

1st. The *Wild Cicely*, or *Cow Weed*, has often been gathered instead of the intended plant; and it is not improbable but other plants may have been likewise mistaken for it, for many of the *Rundle-bearing* or *Umbelliferous Plants* are so much alike, that it requires more skill in botany to distinguish them, than we can suppose the common collectors of medicinal plants to possess. They know plants that they have been taught to collect and to distinguish, but this was one that had never before been in request. After some time, however, the spots upon the stalks were pointed out as a criterion, and then there was less probability of mistakes.

2dly. The season of its highest perfection has never yet been sufficiently ascertained. Some suppose it ought to be gathered just as its blossoms open, others say not till the seeds are forming; but even these suppositions have been too little attended to.

3dly. Perhaps the plants of this natural order have their properties more changed by soil and situation, than those of any other natural order; yet this circumstance has been entirely disregarded.

4thly. No vegetable that is used in medicine is more liable to ferment than this. I have seen it, when collected in a bag, and, carried only two miles on horseback, heat and ferment to such a degree, that the yield of extract was much less than usual, and the properties of it greatly impaired,

5thly.

5thly. At its first introduction it was very common to take only the clearer part of the expressed juice, and to throw away the feculencies. Whenever this is done, the medicine is spoiled.

6thly. Too little attention has been given to the degree of heat applied during the evaporation. Many things lose their peculiar properties when exposed to more than the heat of boiling water, and others are greatly changed even by that. Many reasons may be alledged to prove that Hemlock is one of these.

When further experience has pointed out the best season for gathering the plant, and in what soils and situations it possesses the greatest virtues, I believe a medicine much more efficacious than that commonly used, may be obtained by attending to the following directions:

Let several people be employed to gather the plant, and as fast as it is cut, let others carry it in hand baskets to the press; but it must lie light and loosely in the baskets. Let it be bruised and the juice immediately squeezed out; and as fast as it runs from the press, it must be put over the fire, and boiled till three parts out of four of the whole liquor is wasted. Then it must be put into a water bath, and evaporated to the consistence of honey. If it be now taken and spread thin upon a board or marble slab, and exposed to the sun and to the air, it will soon be of a proper consistence to be formed into pills. From 5 to 10 grains of this extract is a proper dose; few constitutions will bear more without experiencing disagreeable effects.

Such a medicine as this, I believe, will be found an useful addition to our materia medica: not that I have seen it cure cancers either in an ulcerated state or otherwise, but I have never given it without a mitigation of pain, and an amendment of the discharge. Dr. Fothergill, in the 3d vol. of the *Med. Obs.* has given us a variety of cases, to which I can with pleasure refer the reader, as they perfectly correspond with my own experience in a pretty extensive hospital practice for several years past. Dr. Butter uses it in the chincough; but I have had no opportunity of trying it in that disease. WITH.—An extract prepared from the seeds is said to be much more powerful than that from the juice of the plant, and to have done considerable service in some cancerous cases at Edinburgh. See *Med. Comm.* i. p. 326.

After all it may be said, that it acts merely as a narcotic, and only effects what small doses of opium will do, in a less disagreeable manner. But till further experience gives a sanction to this opinion it must not be too hastily adopted; and if it should prove at last that it is only a narcotic, surely there are many cases in which a narcotic that does not occasion costiveness is preferable to one that does. WITH.

The preceding directions were given in the first edition of this work, and they are retained in this for the assistance of those who may still wish to administer the extract; but such is the uncertainty of that preparation, owing to the difficulty of making it, that I have now for some years laid aside the use of it, and prescribed only the powder of the dried leaves. Let the leaves be gathered about the end of June, when the plant is in flower. Pick off the little-leaves and throw away the leaf-stalks. Dry these selected little-leaves in a hot sun, or on a tin dripping-pan or pewter dish before a fire. Preserve them in bags made of strong brown paper, or powder them, and keep the powder in glass vials, in a drawer, or something that will exclude the light, for the light soon dissipates the beautiful green colour, and with its colour, the medicine loses its efficacy. From 15 to 25 grains of this powder may be taken twice or thrice a day. I have found it particularly useful in chronic rheumatisms, and also in many of those diseases which are usually supposed to arise from acrimony. The nature of this book does not allow of minute details of the virtues of plants, but I can assure the medical practitioner that this is well worth his attention. WITH.

Sheep eat the leaves. Horses, Cows, and Goats refuse them. LINN.—A Horse eat some of the young leaves, but was rather indifferent to them. ST.—Thrushes feed upon the seeds.

368. SELI'NUM. Milkweed.

EMPAL. *General Rundle* of many spokes, flat, expanding; the *partial* similar. *General Fence*, leaves several; spear-strap-shaped; bent back; the *partial* similar; expanding; as long as the blossom. *Cup* hardly discernible.

BLOSS. *General*, uniform. All the *florets* fertile. *Individuals*, petals 5; heart shaped; equal.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; bent back. *Summits* simple.

S. VESS. None. *Fruit* between compressed and flat; oval oblong; scored on each side along the middle; divisible into 2.

SEEDS. 2; oval oblong; flat on each side; scored along the middle; edges membranaceous.

Ess,

ESS. CHAR. Fruit oval ablong; between compressed and flat; scored along the middle. Fence bent back. Petals heart-shaped; equal.

SELI'NUM *palustre*. Somewhat milky. Root *marsh* single. LINN. HUDS. CURT. cat.—Shafts widely expanding. Petals rolled in at the point.* ST.—Root often manifold. HALL. MR. WOODWARD. ST.

Jacq. austr. ii. 152.‡—Dod. 699, repr. in Ger. †em. 1020, and cop. in Park. 928, and ill cop. in H. ox. ix. 17. 2, with the addition of seeds of the natural size.—Lob. obs. 409. 1; ic. i. 711. 1, C. B. pr. 85, cop. in Park. 904. 6, in fruit, fences wanting.—Fl. dan. 412, fruit smooth.—(Crautz. iii. 4. 1, is justly believed to be *S. Carnifolia*.—Fl. dan. 257, not the plant.—J. B. iii. 6. 188, is a different plant.)

Herb somewhat milky. Stem mostly single, harder, deeply scored. The terminating *little-leaves* elongated. Root hot in the mouth. LINN.—The whole plant when wounded pouring forth a milky juice. Root thick, branching, yellowish without, white within. Stem upright, 2 and often 3 cubits high, deeply furrowed, of a pleasant green, smooth, reddish at the base, $\frac{1}{2}$ inch thick, hollow, knotty, forked. Leaves of a pleasant green, smooth, triangular, in the more luxuriant plants upwards of a cubit long, and $1\frac{1}{2}$ feet or more in breadth; the uppermost sitting, trebly and quadruply winged, the last leaflets winged-cleft; wings with 2 or 3 clefts, strap-shaped, very entire, reddish at the points. Rib smooth. Sheaths smooth, scored. Fruit-stalks of the rundles scored, smooth. Rundle large, beautiful; spokes about 30. Rundlets, spokes upwards of 40. Fence permanent; leaves spear-shaped, about 9. Fencelet about 12. Seeds roundish, blunt, edged with a kind of border, scored in the centre, smooth. Flowers about 2 lines in breadth. Petals blunt, with 2 slight lobes, white, before flowering reddish on the outside. POLLICH. MR. WOODWARD. ST.—Root single next the stem, but then branched into numerous, thick, tapering divisions. Leaflets, the extreme ones cloven into 3, and the middlemost of these elongated. In the Lancashire plants strap-shaped, and but little broader than the rib. Rundle spreading.

Rundlets

* *Stylis patentissimis, corollulis apice involutis.* ST.

‡ Called by the author *S. sylvest.* but it should seem from the scored stem to be *S. palustre*. REICH. ST.—Our plant exactly accords with the figure, as also with specimens of the Austrian plant given me by the Professor's son. ST.

† Referred by C. B. to *S. sylvestre*, but the stems are described and figured by Dod. as scored. ST.

Rundlets distant. Mr. WOODWARD. ST.—*Leaflets* in the Norfolk plants shorter, strap-spear-shaped, spear-shaped, and sometimes oval-spear-shaped. Mr. WOODWARD.—*Root* when broken pouring out from several places a milky juice, of an aromatic flavour, somewhat like that of *Daucus Carota sylvestris*, with a degree of bitterness, and when chewed sometimes attended with a considerably pungent heat; branches horizontal. Whole plant smooth. ST.—*Stem* 3 feet high, branched. *Leaves* resembling those of *Daucus Carota*. *Rundles* large. *Bloss.* white. *Roots and seeds*, particularly after seeding, of a very strong but agreeable scent when bruised. Mr. HALL.

S. sublaet. leve, Sc. Hall. n. 799.—*S. Tysselinum*. Crantz. 170.—*S. laetescens, caule aspero*, Sc. Hall. n. 800, should seem to be the same with n. 799, if Crantz's obs. be well founded. ST.

Wild Parsley. *Wild Milky Parsley.* PARK.

Marthes, near Doncaster. TOFIELD in HUDSON.—[But a friend writes me from Doncaster, that the best botanist in that neighbourhood is of opinion that it does not grow there, and that Mr. Tofield's specimen came from a distance. Mr. WOOD.—Found in 1779 or 1780 by Mr. Seattle, at Cannon Winder, near Flookburgh, Lancashire, in the ditches near the sand side not very plentiful; and I have since found it round the sides of Ayfide Tarn, 3 miles north of Cartmell. Mr. HALL.—Brought to me and Mr. Crowe, when in Lancashire in 1781, by the Rev. Mr. Jackson. Mr. WOODWARD.—In Alder Swamps, near Yarmouth. Mr. WIGGERS.]

369. ATHAMANTA Spiguel.

Rundle of many spokes; expanding. *Rundlets* with fewer spokes.

EMPAL. *General Fence* many strap-shaped leaves; a little shorter than the spokes. *Partial Fence* strap-shaped; as long as the spokes. *Cup* not discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*, petals 5; heart-shaped; bent inwards; nearly equal.

CHIVES. *Threads* 5; hair-like; as long as the petals. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; distant. *Summits* blunt. S. VESS. None. *Fruit* oblong-egg-shaped; scored; divisible into 2 parts.

SEEDS. 2; egg-shaped; convex and scored on one side, flat on the other.

ESS. CHAR. Fruit egg-oblong; scored. Petals bent inwards; nicked.

ATHAMAN'TA *Libanotis*. Leaves doubly winged, mountain flat. Rundles hemispherical. Seeds hairy.—

Jacq. austr. iv. 392 and 392,* cop. in Relh. at p. 113.—Fl. dan. 754.—J. B. iii. 6. 105.—Pluk. 173. 1.—C. B. pr. 77. 1.—
In both the last the leaves are simply winged with wing cleft leaves; but Gouan informs us, that from the seeds of this he has raised plants according with the Linnæan character.

Root descending, bearded at the top. Stem about 2 feet high, with strongly marked angles; unequally furrowed; generally simple, and rather smooth, somewhat zigzag towards the top. Leaflets wedge-like, remote, not tiled, with wing-like gashes, somewhat confluent; the posterior and lower wings larger; all smooth above, underneath pale, with the veins and edges just sensibly hairy. Leaf-stalks somewhat flattened, and amongst the leaflets channelled. The terminating rundle terminating, upright, on a furrowed fruit-stalk, the whole whitish. Fence, leaves awl-shaped, half as long as the rundle. Fencelets of many leaves. The uppermost lateral rundles opposite, shorter, arising from the bosom of a bellying membrane similar to the base of the other leaf-stalks, but which here is leaf-less. Tips, shafts of the fruit, and receptacles of the flower purplish. LINN.—Terminating rundle sometimes proliferous, with the spokes of the rundlets 2 inches long. RELH.—The first pair of wings (in the lower-leaves. ST.) next the leaf-stalk placed cross-wise. HALL. Mr. WOODWARD.—Lower-leaves almost trebly winged, the wings being deeply wing-cleft. Mr. W.

Daucus montanus, apii folio minor. C. B. pin. 150, prodr. 77, as given by Scop.—(And not *Libanotis apii folio minor*. C. B. 157, who refers to Lob. obs. 402. 3, which is a plant with the little-leaves merely serrated.) The source of the above error may be seen from examining the synonyms of the Fl. suec. ST.

Mountain Stone Parsley.—Chalk Pit Close, Hinton, Cambridgesh. First discovered in Great-Britain by Mr. RELHAN. P. Aug. Sept. Sheep and Swine eat it. Cows refuse it.

ATHAMAN'TA *Oreoselinum*. Leaflets straddling.—straddleleaved

Jacq. austr. 80.—Clus. ii. 195. 2, repr. in Dod. 696, Lob. obs. 406. 1; ic. 707. 2, Ger. em. 1015.—(Mr. Hudson refers to J. B. iii. 6. 105, & Pluk. 173. 1, but these according to Linnæus are his *A. Libanotis*.)

Little-leaves egg-shaped, pointed; wings cut, not serrated. Partial leaf-stalks straddling and bowed. LINN.

Dry

Dry meadows and pastures. Gogmagog Hills, Cambridgesh. RAY and HUDS.—No longer to be found there. Mr. WOODWARD.—Neither does Mr. Relhan notice it in his *Flora cantab.* ST.—Between St. Alban's and Stony Stratford. HUDS. P. July. Aug.

common ATHAMANTA *Me'um*. Leaves hair-like. Seeds smooth, scored. *Sp. pl.* HUDS.
Æthusa Meum, which see.

370. PEUCED'ANUM. Sulphurwort.

Rundle of many very long, slender spokes. *Rundlets* expanding.

EMPAL. *General Fence* many leaves; strap-shaped; small; reflected. *Partial Fence*, still smaller. *Cup* with 5 teeth; very small.

BLOSS. *General*, uniform. *Florets* in the centre barren. *Individuals*, petals 5; equal; oblong; entire; bent inwards.

CHIVES. *Threads* 5; hair-like. *Tips* simple.

POINT. *Seed-bud* beneath; oblong. *Shafts* 2; small. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; divisible into 2; scored on each side; encompassed round by a membranaceous border.

SEEDS. 2; oblong-egg-shaped; compressed; convex on one side, and marked by three rising ridges; bound round by a broad, flat membrane; notched at the end.

ESS. CHAR. *Fruit* egg-shaped; scored on each side; bordered with a membrane. *Fences* very short.

common PEUCED'ANUM *officinale*. Leaves 5 times divided into 3; thread-strap-shaped—

Fuchs. 599, *cop. in.* *J. B.* iii. 6. 36. 1.—*Dod.* 317, *repr. in Lob. obs.* 453; *ic.* i. 781, *Ger. em.* 1054. 1, and *cop. in Park.* 880. 2.—*Ger.* 896. 1.—*Trag.* 881.

Petals yellowish.

Sulphurwort. *Hogs Fennel.* *Harestrong.*

Salt marshes. Shoreham, Suffex. Walton, near Harwick, Effex; and near Faversham. R. *fyn.*—About Yarmouth and Clay, Norfolk. HUDS. P. June. July.

The roots have a strong fetid smell, and an acrid, bitterish, unctuous taste. Wounded in the spring they yield a considerable quantity

quantity of yellow juice, which dries into a gummy resin and retains the strong scent of the root. Its virtues have not yet been ascertained with any precision.

PEUCED'ANUM *mi'nus*. Leaves winged; leaflets *rock* with winged clefts; segments strap-shaped, opposite. Stem very much branched, open. HUDS. *ed.* I. LINN.

Pimpinella dioica, which see.

PEUCED'ANUM *Silau's*. Leaflets with winged *meadow* clefts; segments opposite. General fence of 2 leaves. LINN.—Frequently of one. MR. WOODWARD. ST.—And when cultivated of several. RETZ.

Jacq. austr. i. 15.—*Crantz. umb.* 6, repr. in *austr.* iii. 6.—*Ger.* 1047. 1, cop. in *Park.* 904. 4, and *J. B.* iii. 6. 171.—*Ger.* 377.—*Dod.* 310. 2, repr. in *Lob. obs.* 425. 4; *ic.* i. 738. 1, *Ger. em.* 1048. 2, and cop. in *Park.* 904. 3.

Fence, leaves strap-shaped, brown at the point. RETZ. *obs.* ii. 43.—Root-leaves on long, cylindrical, scored, smooth leaf-stalks. Stem-leaves on shorter leaf-stalks, which are membranaceous at the base. Lower-leaves treble compound; the little-leaves cloven into 2 or 3 spear-shaped segments. Stems upright, cylindrical, scored, smooth, tinged with red above the root. General fence 2 little-leaves. Partial fence 12 spear-shaped leaves, deep purple or black at the ends. Rundle of about 7 spokes. Rundlets 12 to 20, and upwards. All the florets generally fertile, but some of the central ones sometimes barren. Petals pointed, yellow. Threads long. Tips yellow. Seed-bud crowned with a glandular yellow receptacle, turning to a deep red as the seeds ripen. WITH.

Meadow Saxifrage.

Moistish meadows and pastures.

P. Aug.

A Horse eat it. ST.

371. CRITH'MUM. Samphire.

Rundle of many spokes; hemispherical. *Rundlets* the same. *EMPAL.* *General Fence* many leaves; leaves spear-shaped; blunt; reflected. *Partial Fence* between spear and strap-shaped; as long as the rundlet. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*, petals 5; egg-shaped; bent inwards; nearly equal.

CHIVES. *Threads* 5; simple; longer than the petals. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* oval; compressed; divisible into 2.

SEEDS. 2; oval; flat; but somewhat compressed; scored on one side.

ESS. CHAR. *Fruit* oval; compressed. *Florets* equal.

rock CRITH'MUM *maritimum*. Leaflets fleshy, spear-shaped.—

Jacq. hort. ii. 187.—*Dod.* 705. 1, repr. in *Lob. obs.* 213. 2; *ic.* i. 392. 2, *Ger. em.* 533. 1, and cop. in *J. B.* iii. 6. 194, and *H. ox.* ix. 7. row 1. 1.—*Lon.* i. 257, foliage.—*Matth.* 489, cop. in *Ger.* 427. 1.—(*Park.* 1286. 1, is not the plant.)

Sea coast. [On the chalk cliffs near the Needles in the Isle of Wight. *ST.*—On all the cliffs on the Cornish coast. *Mr. WATT.*]—Fields about Porth Gwylan, Caernarvonshire, covered with it.

PENN. Wales. ii. 200.

P. Aug.

Poor people on the sea coast eat it as a pot-herb, and gather it for sale, it being much used as a pickle.

Sheep and Cows eagerly feed, and are said to grow fat upon it. *PENN. ib.*

375. HERACLE'UM. Hogweed.

Rundle very large; consisting of numerous flat *Rundlets*.

EMPAL. *General Fence* many leaves; shedding. *Partial Fence* going half way round on the outer side; leaves from 3 to 7; between strap and spear-shaped; the outer longer. *Cup* just perceptible.

BLOSS. *General*, unequal; irregular in its shape. *Florets* nearly all fertile. *Individuals of the centre*; of 5 equal petals; bent and hooked inwards; notched at the end. *Of the circumference*; of 5 unequal petals; the outer petals largest; with the deepest notches; hooked; oblong.

CHIVES. *Threads* 5; longer than the petals. *Tips* small.

POINT. *Seed-bud* beneath; somewhat egg-shaped. *Shafts* 2; short; near together. *Summits* simple.

S. VESS. None. *Fruit* oval; compressed; notched; scored along the middle on each side.

SEEDS. 2; egg-shaped; compressed; with a leafy edge.

ESS. CHAR. *Fruit* elliptical; nicked; compressed; scored; with a border. *Blossom* dissimilar; nicked; bent in. *Fence* shedding.

Obs. In some species the florets in the circumference have only pointals without chives, and produce seeds; the central florets have chives without pointals, and are barren. In the *H. Sphondylium* the florets have all chives and pointals. The general fence is sometimes altogether wanting. In the two British species the florets in the centre are composed of unequal petals as well as those in the circumference.

HERACLE'UM *Sphondylium*. Leaflets with winged clefts,* even. Flowers uniform. LINN. *syfl. veg.*—Radiated. *Syfl. nat.* HUDS. ST.—And improperly changed in the *errata* and subsequent works to uniform. ST.

Blackw. 540.—*H. ox.* ix. 16. row 1. 1. f. 2.—Dod. 307, repr. in *Lob. obs.* 401. 2; *ic.* i. 701. 2, *Ger. em.* 1009, and *cop.* in *Park.* 953, and *Pet.* 24. 1.—*Park.* 954. 3.—*Matth.* 791.—*Fuchs.* 53, *cop.* in *J. B.* iii. 6. 160.—*Trag.* 437. In the 2 last the lower leaves represented as only wing cleft.

* "Lævibus" opposed to "rugosis" in the *H. asfriacum*. ST.

Outer petals of the circumference 4 times as large; those of the centre nearly equal. HALL. ST.—Stem-leaves winged, hairy; leaflets about 2 pair, jagged, and indented, the odd one cloven into 3. Stem furrowed, rough with white hairs. Leaf-stalks spreading out at the base into a kind of bags, scored, membranaceous, woolly at the edges, and in its younger state sheathing and inclosing the fruit-stalks and rundles. Florets of the centre with nearly equal petals. Florets, particularly the outer ones, have a horned appearance before they expand. Tips greenish. Summits semi-transparent. Seeds with 3 rising ridges on each side; the leafy border often purplish. WITH.

Cow Parsnep. Madnep. Hogweed, in Norfolk.

In Poland and Lithuania, the poor people prepare a liquor from the leaves and seeds; which undergoes a fermentation, and is drank instead of ale.—The stalks, when peeled, are eaten by the Kamfchatkians. —The Russians take the leaf-stalks of the root-leaves, peel them, and hang them in the sun to dry a little; then they tie them in little bundles, and hang them up again till they become yellow: in this state they put them into bags, and a mealy substance like sugar forms upon the surface of them. This they shake off, and treat their guests with it as a great delicacy. They likewise distill an ardent spirit from it. *Gmelin. sibir. i. p. 214.* The peelings of the stalks are acrid.—The leaves are a favourite food of Rabbits and Hogs. Cows, Goats, and Sheep eat them; but Horses are not fond of them.

Hedges, meadows, and pastures.

B. July.

jagged

β. (*angustifolium*. HUDS.)

Little-leaves spear-shaped. ST.

Jacq. austr. 174.—Pluk. 63. 3, cop. in Pet. 24. 2.—Park. 954. 2, a leaf.—(Barr. 56, seems to approach more nearly to the common kind.)*

A mere variety. RAY. HALL. MR. WOODWARD. ST.—And different from the *H. angustifol.* HALL.—*Flowers radiated. HALL. HUDS. ST.—But sometimes, tho' very rarely, uniform. HUDS. MR. WOODWARD.—On being cultivated in a garden became var. α. HUDS.—I have found the root-leaves of this and of H. Sphondyl. rising from the same root. Leaves winged; wings with mostly 3 lobes; lower-lobes long, and standing nearly at right angles give the cross-like appearance; lobes strap-spear-shaped, deeply and doubly serrated. MR. WOODWARD.*

* This is *H. longifolium* of JACQ. in Syst. veg. but accords with Pluk. quoted by Linnaeus and with my specimens. ST.

Sphondylium majus aliud laciniatis foliis. Park. 953. Ray syn. 205.

Hedges. About Harefield. BLACKST.—[Between Okeover and Ashbourne. ST.—Berkhamstead, Hertfordsh. Mr. WOODWARD.]
B. July.

376. LIGUSTICUM. Lovage.

Rundle of many spokes. Rundlets the same.

EMPAL. General Fence 7 unequal membranaceous leaves.

Partial Fence of about 4 membranaceous leaves. Cup of 5 teeth; but hardly perceptible.

BLOSS. General, uniform. Florets all fertile. Individuals, petals 5; equal; flat; entire; rolled inwards; and keeled on the inside.

CHIVES. Threads 5; hair-like; shorter than the petals. Tips simple.

POINT. Seed-bud beneath. Shafts 2; standing close together. Summits simple.

S. VESS. None. Fruit oblong; angular; with 5 furrows; divisible into 2.

SEEDS. 2; oblong; glossy; marked on one side with 5 ridges; flat on the other.

ESS. CHAR. Fruit oblong; with 5 furrows on each side.

Blossom equal. Petals rolled in; entire.

LIGUSTICUM *scoticum*. Leaves doubly three- scotch fold.—

Penn. tour. ii. 24. at p. 205.—Herm. par. 227.—Fl. dan. 207.—

Fluk. 96. 2.—Pet. 26. 11.

Leaves glossy underneath. LINN.—Little-leaves oblong-wedge-shaped, entire below, above irregularly ferrated, and sometimes deeply cut. Mr. WOODWARD.

Scottish Sea Parsley.—Rocks and cliffs by the sea side in Scotland and the Western Isles. Near Queen's Ferry. [Near Kinghorn, Scotland. Mr. WHATELY.] B. July.

It is much valued in the Isle of Sky. The root is reckoned a good carminitive, and an infusion of the leaves a good purge for colics. It is besides used as food, either as a sallad, or boiled as greens. Penn. tour. 1772. p. 310.

Horses, Sheep, and Goats eat it. Cows refuse it.

(*CURT.) LIGUSTICUM *cornubiense*. Leaves cornish doubly compound, cut; root-leaves in threes, spear-shaped, very entire.—

Ray 8. at p. 209.—Pet. 26. 2.

Cornwall Saxifrage.

In Cornwall. Only one specimen is known to exist. It has been searched for in vain by many industrious botanists, which has induced some to believe that it is now extinct. Sr. P. July.

377. ANGELICA. Angelica.

Rundle of many spokes; nearly globular. *Rundlets* exactly globular.

EMPAL. *General Fence* small; of 3 or 5 leaves. *Partial Fence* small; of 8 leaves. *Cup* with 5 teeth; hardly discernible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*, petals 5; spear-shaped; rather flat; but a little bent inwards; shedding.

CHIVES. *Threads* 5; simple; longer than the petals. *Tips* simple.

POINT. *Seed-bud* beneath. *Shafts* 2; bent back. *Summits* blunt.

S. VESS. None. *Fruit* roundish; angular; solid; divisible into 2.

SEEDS. 2; egg-shaped; flat on one side and encompassed with a border; on the other convex, and furrowed with 3 lines.

ESS. CHAR. *Fruit* roundish; angular; solid; with the shafts bent back. *Blossom* equal; petals bowed inwards.

OBS. In *A. sylvestris* general fence often wanting.

wild ANGELICA *sylvestris*. Leaflets equal, egg-spear-shaped, serrated.

Ludw. 178, 179.—Fuchf. 125, cop. in Trag. 422, and J. B. iii. 6. 144.—Dod. 318. 2, repr. in Ger. em. 999. 2.—Ger. 846. 2.—Matth. 1171.—H. ox. ix. 3. row 2. 2.—Park. 940. 2.—Lon. i. 227. 2.

Spokes to 40. *Fruit-stalks* to 80. *Petals* nearly equal, egg-shaped, pointed. *Fruit* with 4 wings and 3 scores on each side. *Shafts* white, and as the receptacle, at length red. *Seed*, edge red. RELH.—*Stem* smooth. *Leaf-stalks* channelled on the upper surface, below widening into a large membranaceous sheath inclosing the stem. *Fruit-stalks* rising from the sheaths of the leaf-stalks. *Leaflets*, serratures ending in a sharp reddish point. *Rundlets* somewhat flattened. *General Fence* none, or sometimes, though rarely, of 1 or

Or 2 very small, slender leaves. *Fencelets* permanent; *leaves* 5 to 12, awl-shaped, unequal. *Bloss.* white, more or less tinged with purplish red. *Seeds*, border membranaceous, with 3 ridges on the outer side. WITH.

Marshy woods and hedges.

Þ. June. July.

It is warm, acrid, bitter, and aromatic; but the species cultivated in our gardens possessing these properties in a higher degree, this has been long neglected.—*Papilio machaon* feeds upon it.

Cows, Goats, and Swine eat it. Horses refuse it. LINN.—A Horse eat the flowering stem. ST.

378. SI'UM. Skerret.

Rundle different in different species. *Rundlets* flat and expanding.

EMPAL. *General Fence* many reflected leaves; shorter than the rundle; *leaves* spear-shaped. *Partial Fence* many leaves; strap-shaped; small. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*, petals 5; equal; heart-shaped; bent inwards.

CHIVES. *Threads* 5; simple. *Tips* simple.

POINT. *Seed-bud* beneath; very small. *Shafts* 2; reflected. *Summits* blunt.

5. VESS. None. *Fruit* roundish; egg-shaped; scored; small; divisible into 2.

SEEDS. 2; nearly egg-shaped; convex and scored on one side; flat on the other.

ESS. CHAR. *Fruit* somewhat egg-shaped; scored. *Fence* of several leaves. *Petals* heart-shaped.

OBS. In *S. nodiflorum* the general fence often wanting.

SI'UM *latifolium*. Leaves winged. Rundle terminating. LINN.—Little-leaves oblong-spear-shaped, serrated. Rundles terminating. HUDS.

Jacq. austr. i. 66.—Fl. dan. 246, leaves and flowers.—Dod. 589,* repr. in Ger. em. 256. 2, cop. in H. ox. ix. 5. 2, and Pet. 26. 2.—Ger. 200. 1, cop. in Ger. em. 256. 1, Park. 1240. 1, J. B. iii. 6. 175. 1, and H. ox. ix. 5. row 2. 1.—Ger. 200. 3, cop. in J. B. iii. 6. 174.†—Pet. 26. 1.—(Jacq. ib. 67, referred to by Murr. is most undoubtedly *S. angustifol.* as Jacq. has made it.)

*† Referred to by Linnæus, and exactly resembles this plant as growing wild, though the other figures are the best representation of it as cultivated. ST.

Leaflets sharply ferrated. HALL. MR. WOODWARD.—*Leaflets* of the *root-leaves* in marshy places sometimes deeply cut, and the segments of such as are under water strap-shaped. HUDS.—*Stem* upright, 5 ft. high, angular, scored, hollow, branching; branches ascending. *Leaflets* opposite, strap-egg-shaped, ferrated, unequal at the base, pointed, the outermost with 3 lobes; the lateral lobes running into one. *Rundle* hemispherical, uniform. *Fence*, and *fencelets*, leaves unequal, strap-shaped, somewhat toothed. *Tips* purplish. LYONS.—*Leaves* of the *general fence* strap-spear-shaped, toothed. MR. WOODWARD.—*Leaflets* ferrated. *Petals* white.

Great Water Parsnep.—Rivers and fens. [In the Moors, near Pitchcroft, Worcester. Dr. THOMSON jun.—Norfolk, frequent. MR. WOODWARD.—Isle of Ely. ST.] P. July. Aug.

Horses and Swine eat it. Sheep are not fond of it. The roots are noxious to cattle.

narrowleaved

S I'U M *angustifolium*. LINN.*—Leaves winged. Leaflets heart-shaped, lobed, unequally ferrated. Rundles on fruit-stalks opposite the leaves, and terminating. HUDS.—*Little-leaves unequal at the base, and the base of the upper margin being hollowed out, gives many of them the appearance of half-heart-shaped; and those of the upper-leaves spear-shaped.* ST.

Jacq. austr. i. 67.—Fl. dan. 247, leaves and flowers.—Park. 1241.

2.—(Ger. 200. 3, cop. in J. B. iii. 6. 174, is *S. latifolium*, as is evident from its terminating rundles; as is also Ger. em. 256. 2, as appears from the regular and even serratures of the leaves.—

Jacq. ib. 66, referred to by Murr. is most undoubtedly *S. latifol.*)

General fence, leaves entire, ferrated, and also with winged clefts. HUDS. MR. WOODW. ST.—*Partial fence*, leaves jagged, as long as the rays. MR. WOODW.—And in other plants spear-shaped, entire. ST.

Upright Water Parsnep.

Ditches and rivulets. [Norfolk. MR. WOODWARD.—Kingston Pool, near Stafford. ST. WITH.] P. June. July.

It certainly possesses active properties that ought to be enquired into.

creeping

S I'U M *nodiflorum*. Leaves winged. Rundles from the bosom of the leaves, sitting. LINN.—Nearly sitting, from the sides of the stem. Stem trailing. ST.†

* The Linnæan character was adopted from Hudson, who has since corrected it as above.—*Foliolis inciso-ferratis, umbellis oppositifoliis.* ST.

† *Foliis pinnatis, umbellis lateralibus subsessilibus, caule procumbente.* ST. Tourne.

Tourn. 162, a leaf.—*H. ox.* ix. 5. 3, cop. in *Pet.* 26. 3.—(*Fl. dan.* 247, is *S. angustifolium*.)

General fence often wanting. LINN. ST.—Stems creeping. Rundles, spokes 8 or 9. Petals entire, egg-shaped, slightly bent in, the outermost in the florets of the circumference larger. Fence falling off before flowering. Fencelets, leaves 7. RELH.—Partial fence, leaves oval, entire, membranaceous at the edge. MR. W. ST.—Little-leaves, serratures even and shallow. RETZ. ST.—Egg-shaped, pointed, and sometimes oval and rounded at the end. ST.—Rundles, some of them opposite the leaves. GOUAN.—Never opposite the leaves. RETZ.—But in all the specimens of our herbariums they are uniformly opposite the leaves. In stems indeed not yet fully expanded rundles will appear proceeding from the bosom of the leaves, but on examination such will be found to arise from a young branch furnished also with leaves, and opposite to the base of one of these leaves the short fruit-stalk of the rundle will be found to proceed. ST.—Stem scored, angular. Lower-leaves with 2, the upper with 1 pair of leaflets. Leaflets fitting. Rundles nearly fitting. General fence none. Partial fence of 5 or 6 spear-shaped leaves, bent back. Petals white. WITH.

Creeping Water Parsnep.

In rivers and ditches.

P. July. Aug.

A young lady 6 years old was cured of an obstinate cutaneous disease, by taking 3 large spoonfuls of the juice twice a day; and I have repeatedly given to adults 3 or 4 ounces every morning in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the doses I have given it, it neither affects the head, the stomach, nor the bowels. WITH.

SI'U M *inunda'tum*. WIGG.—Creeping. Rundles with least 2 spokes. ST.

Sifon inundatum, which see.

379. S I ' S O N, Honewort. (*Petiv.*)

Rundle unequal; with fewer than 6 spokes. *Rundlets* unequal; with fewer than 10 spokes.

EMPAL. *General Fence* 4 leaves; unequal. *Partial Fence* the same. *Cup* hardly perceptible.

BLOSS. *General*, uniform. *Florets* all fertile. *Individuals*, equal; of 5 petals; spear-shaped; flat; but a little bent inwards.

CHIVES. *Threads* 5; hair-like; as long as the petals. *Tips* simple.

POINT. *Seed-bud* beneath; nearly egg-shaped. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; scored; divisible into 2.

SEEDS. 2; egg-shaped; convex and scored on one side; flat on the other.

Ess. CHAR. *Fruit* egg-shaped; scored. *Fence* of generally 4 leaves.

hedge S I ' S O N *Amo'mum*. Leaves winged. Rundles upright.—

Jacq. hort. iii. 17.—*Blackw.* 442.—*J. B.* iii. 6. 107.—*Fuchf.* 655, *cop. in Trag.* 461, and *Dod.* 697. 1, which repr. in *Ger. em.* 1016. 1; and again *cop. in Park.* 914. 1, and *H. ox.* ix. 5. 7.

Stem thread-shaped, upright, scored, smooth. *Leaves* winged; leaflets egg-shaped, cut, serrated, but the uppermost more finely divided. *Rundle* of 4 spokes, the 4th in the centre. *Fence* of 3 leaves. *Fencelets* of 5 leaves, very small. LINN.—*Root-leaves* of several pair of little-leaves, the terminating one cloven into 3. *Stem-leaves* from 2 to 3 pair; upper leaves of 2 pair, deeply and irregularly cut, the lowermost pair winged, and much longer. *General* and *partial rundles* nodding before flowering. MR. WOODWARD. ST.—*Little-leaves* with generally a lobe-like gash on each side below the middle. *General rundle*, rays to 7. *General fence* often of 4 leaves. ST.—*Rundles* terminating. *Petals* white.

Bastard Stone Parsley.

Moist Woods and hedges.

P. Aug. Sept.

The seeds are a mild warm aromatic. They give out their virtues to rectified spirit, and tinge it green.

corn S I ' S O N *se'getum*. Leaves winged. Rundles nodding.—

Jacq.

Jacq. ii. 134.—*Ger. em.* 1018, *cop. in Park.* 932, and *H. ox.* ix. 5. row 2. 6.

All the leaves with numerous pairs of little-leaves. *Rundle*, spokes 3 to 5, very unequal. *Rundlet*, spokes 6 or 7, very unequal. Mr. WOODWARD. ST.—*Stem* sea-green. *Branches* wide-spreading. HALL. ST.—*Little-leaves* egg-shaped, deeply cut and serrated; serratures very finely pointed. ST.

Corn Parsley.

Corn fields and hedge sides in chalk and clay. [Binham, Norfolk. Mr. CROWE.] B. LINN.—A. HUDS.—July.

S I ' S O N *inunda'tum*. Creeping. Rundles of 2 spokes. *water* LINN.—Sometimes bearing only a single rundle. Mr. WOODWARD. ST.

Fl. dan. 89.—*H. ox.* ix. 5. 5, *cop. in Pet.* 26. 4.—*Pluk.* 61. 3.

The smallest of the umbelliferous plants that I am hitherto acquainted with. LINN.—The leaves which grow under water hair-like, those above the surface winged. ROYEN.—*Fence* wanting. RELH. ST.—*Upper-leaves* with from 2 to 3 pair of little-leaves; *Little-leaves* cloven into 3. Mr. WOODW.—But in my specimens all the little-leaves jagged as in the figure of *Pluk.* ST.—*Rundles* on long fruit-stalks. HALL. Mr. WOODWARD. ST.—Half as long, and sometimes longer than the leaves, opposite the insertion of the leaves, though included within their sheathing leaf-stalk. *General fence*, none in my specimens or the figures. *Rundlets* on fruit-stalks sometimes twice as long as the rundle. ST.—Sometimes sitting, of few flowers. Mr. WOODWARD.

Leaf Water Parsnep.

In ditches, pools, and ground subject to be overflowed. [Near Bungay, Suffolk. Mr. WOODW.—Sides of rivulets on Malvern Chase, Worcestershire. Mr. BALLARD.]

S I ' S O N *verticilla'tum*. Leaflets in whorls, hair-like.— *whorled* *Lightf.* 35, at p. 1096.—[*Moris. umb. t.* 6. *Lightfoot* and Mr. Woodward.]—*H. ox.* ix. 7. 10.

Leaves, each of the whorls consists of 2 opposite little-leaves deeply divided into hair-like segments. *Rundles*, rays 8 to 10. LIGHTF. ST.

Meadows and pastures. On the Western Side of Wales and Scotland. P. Aug.

382. OENAN'THE. Dropwort.

Rundle with few spokes. *Rundlets* with many very short spokes.

EMPAL. *General Fence* many leaves; simple; shorter than the rundle. *Partial Fence* many leaves; small. *Cup* with 5 awl-shaped teeth; permanent.

BLOSS. *General*; of different shaped florets; radiated. *Florets* in the circumference barren. *Individuals*; in the centre fertile; *petals* 5; nearly equal; heart-shaped, but bent inwards; in the circumference, with 5 petals; large; unequal; bent inwards; cloven.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; awl-shaped; permanent. *Summits* blunt.

S. VESS. None. *Fruit* nearly egg-shaped; crowned with the cup; divisible into 2 parts.

SEEDS. 2; somewhat egg-shaped; convex on one side; scored; flat on the other; toothed at the point.

ESS. CHAR. *Florets* of different shapes; those of the centre sitting; barren. *Fruit* crowned with the empal. and pointal.

OBS. In this genus the cup is more evident than in the other plants of the umbelliferous tribe, and in some of the species the general fence is often wanting.

water OENAN'THE *filulosa*. Sending forth suckers. Stem-leaves winged; thread-shaped; hollow.—

Fl. dan. 846.—*Lob. ic. i.* 732. 2, repr. in *Ger. cm.* 1060; *cop.* in *Park.* 1233. 1, and *Pet.* 25. 5.—*J. B.* iii. 6. 192.—*Ger.* 902. 5.

General Fence wanting. LINN.—Or as sometimes of 1 leaf. RELH. ST.—*General rundle*, spokes from 2 to 7. POLLICH. RELH. ST.—To 8. In some situations it acquires the habit of *O. pimpinelloides*, but the absence of the general fence affords a ready mark of distinction. ST.—*Root* tuberous. *Stem* angular, 1½ foot high, red below. *Leaves* winged; leaflets strap-shaped; root-leaves, wings 3-fingered. *Fencelets* compact. *Empal.* with 5 clefts. LYONS.—The first rundle is cloven into 3 parts; the others into many; so that the plant changes its appearance considerably in the course of the summer. *Petals* white.

Ponds and ditches, frequent.

P. July.

Cows and Horses refuse it, though from experiments made on purpose, it does not appear to be in the least degree noxious to the former.

β. lesser.

β. leffer. RAY. HUDS

Dod. 590, repr. in *Lob. obs.* 421; *ic.* i. 732. 1; and *cop.* in *Park.* 1233. 2, *H. ox.* ix. 7. 8, and *Pet.* 25. 6.—(*Matth.* 869, cannot be the plant.)

OENAN'THE *croca'ta*. All the leaves with many *Hemlock* clefts, blunt, nearly equal.—

Phil. transf. abr. x. 23, at p. 772, *cop.* in *Blackw.* 575, and *Gent.*

Mag. 1747. xvii. at p. 322.—*Jacq. hort.* iii. 55.—*Pet.* 25. 7.

—*H. ox.* ix. 7. row 2. 2.—*Lob. adv.* 326. 2, *cop.* in *ic.* i. 730.

2, repr. in *Ger. em.* 1059. 4, *Park.* 894. 6, and *J. B.* iii. 6.

193. 2.

Stem yellowish red. *Leaves*, some winged; but more doubly winged. The *little-leaves* wedge-shaped, smooth, streaked, jagged at the edges. *Fruit-stalks* angular, scored. *General Fence* wanting. *Petals* white, sharp, bent inwards. *Tips* brown. LINN.—*Stem* and *leaves* quite hair-lefs. *Rundles* nearly globular. *Tips* mulberry-coloured. *Shaft* sometimes reddish. *General Blossom* not very unequal. WITH.

Dead Tongue.

Watery places, banks of rivers and ditches. [*Meadows*, near Hanley Hall, Worcestershire. Mr. BALLARD.] P. June. July.

The whole of this plant is poisonous; and Dr. Poultney remarks, that the root is the most virulent of all the vegetable poisons that G. Brit. produces. Many instances of its fatal effects are recorded; for which see *Phil. Transf.* ib. and vol. i. p. 356; *Gent. Mag.* July 1747, March 1755, and Sept. 1758.—An infusion of the leaves, or 3 tea-spoonfuls of the juice of the root taken every morning, effected a cure in a very obstinate cutaneous disease; but not without occasioning very great disturbances in the constitution. *Phil. Transf.* lxii. p. 469.

Sheep eat it. Cows and Horses refuse it.

OENAN'THE *pimpinelloi'des*. Leaflets of the root- *Parsley* leaves wedge-shaped, cloven; those of the stem entire, strap-shaped, very long, undivided.—

Jacq. austr. iv. 394.—*Matth.* 867, *cop.* in *Ger.* 901, and *J. B.* iii.

6. 191. 1.—*Pet.* ii. 25. 8.—(*J. B.* ib. 2, and *Pluk.* 49. 4, are the figures referred to by Ray and Hudson, but Linnæus observes that that of *Pluk.* is a bad one. Trew in *Blackw.* refers it to O. *crocata*, but the points of the leaves are sharp.)

Stem angular, 6 inches high. *Root-leaves* like those of parsley, but thicker, doubly winged, broad; *leaflets* cut. *Stem-leaves* less compound, scarcely doubly winged; *leaflets* strap-shaped, channelled, very long. *Rundle* unequal. *Fence*, general and partial, awl-bristle-

bristle-shaped. *Bloss.* white, somewhat radiated. LINN.—*Rundlet*, outer rays very long, and their florets barren. HALL. Mr. W.—*Empal.* teeth unequal. *Tips* yellow. *Shafts* upright. WITH.

Slow streams, ponds, and ditches. [Marshes, near Yarmouth. Mr. WOODWARD.—North Side of Bredon Hill, Worcestershire. By the sides of Hills. NASH.] P. July. Aug.

383. PHELLAN'DRIUM. Horfebane.

Rundle with many spokes. *Rundlets* the same. *General Fence* none.

EMPAL. *Partial Fence* of 7 leaves; sharp; as long as the rundlet. *Cup* of 5 teeth; permanent.

BLOSS. *General*, nearly uniform. *Florets* all fertile. *Individuals*; unequal; *petals* 5; tapering; heart-shaped; bent inwards.

CHIVES. *Threads* 5; hair-like, longer than the petals. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; awl-shaped; upright; permanent. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; smooth; crowned with the cup and shafts; divisible into 2 parts.

SEEDS. 2; egg-shaped; smooth.

ESS. CHAR. *Florets* of the centre less. *Fruit* egg-shaped; even; crowned with the cup and shafts.

water PHELLAN'DRIUM *aquat'icum*. Ramifications of the leaves straddling.—

Blackw. 570.—*Dod.* 591, *repr. in Lob. obs.* 424. 1, *ic. i.* 735. 1, *Ger. cm.* 1063, and *cop. in Park.* 933. 6, and *Pet.* 28. 4.—*H. ox. ix.* 7. row 1. 7.—*Ger.* 905.

Leaves under the surface of the water long and hair-like. Mr. WOODWARD.—*Stem* very thick; hollow, scored. *Petals* white. *Water Hemlock.*

Rivers, ditches, and pools. [Clifton, near Severn Stoke, Worcestershire. Mr. BALLARD. ST.] B. June. July.

The seeds are recommended in intermittents, and are said to be diuretic, antileptic, and expectorant. Dose from 1 to 3 drams daily. Dr. LANGE.—The leaves are sometimes added to discutient cataplasms.—It is generally esteemed a fatal poison to Horses, occasioning them to become paralytic; but this effect is owing to an insect, (*Curculio paraplecticus*) which generally inhabits within the stems. The usual antidote is pig dung.—In the winter the roots

Roots and stem, dissected by the influence of the weather, afford a very curious skeleton or net work.

Horses, Sheep, and Goats eat it. Swine are not fond of it. Cows refuse it. *Chrysomela Phellandria*, and the Gilt *Leptura* are found upon the roots, and the *Curculio paraplecticus* within the stems.

384. C I C U ' T A. Cowbane.

Rundle roundish; with many equal spokes. *Rundlets* roundish; with many bristle-shaped spokes.

EMPAL. *General Fence* none. *Partial Fence* many leaves; little-leaves bristly; short. *Cup* scarcely evident.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals 5; egg-shaped; nearly equal; bent inwards.

CHIVES. *Threads* 5; hair-like; longer than the petals. *Tips* simple.

POINT. *Seed-bud* beneath. *Shafts* 2; thread-shaped; longer than the petals; permanent. *Summits* roundish.

S. VESS. None. *Fruit* nearly egg-shaped; slightly furrowed; divisible into 2.

SEEDS. 2; somewhat egg-shaped; convex and scored on one side; flat on the other.

ESS. CHAR. *Fruit* nearly egg-shaped; furrowed.

C I C U ' T A *viro'sa*. Rundles opposite the leaves. Leaf- water stalks bordered, blunt.—

Phil. transf. abr. x. 23, at p. 772.—*Fl. dan.* 208, leaf and roots.—

Blackw. 574. a. b. c.—*Gunner* 2.—*Dod.* 589. 3, repr. in *Lob.*

obs. 105. 2, ic. i. 208. 2, *Ger. em.* 256. 4, and cop. in *Park.*

1241. 3, *J. B.* iii. 6. 175. 2, and *Pet.* 28. 1.—*H. ox.* ix. 5. 4.

Stem round, hollow. *Leaves* winged; leaflets spear-shaped, in threes, serratures white at the point. *Rundle* expanding, red at the base. *Fencelets* of several leaves, bristle-shaped, short. *Flowers* white, with chives and pointals. *Shafts* upright, white; in the fruit straddling. *Summits* simple. *Fruit* compressed, even, lopped, opening tranversely. LINN.—*Leaflets* with 2 and 3 divisions sharply serrated. *Partial fence*, leaves longer than the rays. Mr. W.—In my specimens rather shorter than the rays, unequally serrated. ST.—*Stem* scored, smooth, about 4 feet high, reddish towards the bottom. *Leaves*, serratures sometimes brown. *Fruit-stalks* sheathed at the base by the leaf-stalks. *Receptacle of the spokes* reddish. *Fencelets* shorter than the little spokes. *Cup* tolerably distinct. *Tips* reddish purple, *Shafts* at first close and very short, after flowering much

much longer. *Leaves* with about 7 pair of *little-leaves*, which are variously divided and indented. *Petals* yellowish pale green. WITH.

Long-leaved Water Hemlock.

Sides of pools and rivers. [Pond 2 miles from Northwich on the side of the road to Chester; and in Nottingham Park. Mr. WOOD.—Near Norwich. Mr. PITCHFORD.—Near Yarmouth. Mr. WOODW.—Kingston Pool, near Stafford. ST.—Mr. Slaney's Pool Dam, Hatton, Shropshire. WITH.] P. July. Aug.

This is one of the rankest of our vegetable poisons. Numerous instances are recorded of its fatality to the human species in a treatise upon it by *Wepfer* and *Haller's hist. helv. n. 781*. See also an account of its deleterious effects in the *Phil. transf. abr. x*.

Early in the spring, when it grows in the water, Cows often eat it, and are killed by it; but as the summer advances, and its scent becomes stronger, they carefully avoid it. Though a certain and fatal poison to Cows, Goats devour it greedily and with impunity. Horses and Sheep eat it with safety.

385. ÆTHU'SA. Cicely.

Rundle expanding; the inner spokes gradually shorter, and those in the centre the shortest of all. *Rundlets* small; expanding.

EMPAL. *Partial Fence* with 3 or 5 leaves; going half way round upon the outer side; strap-shaped; very long; pendant. *Cup* hardly perceptible.

BLOSS. *General*, nearly uniform. *Florets* all fertile. *Individuals*; *petals* 5; unequal; heart-shaped; but bent inwards.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* roundish-egg-shaped; scored; divisible into 2.

SEEDS. 2; roundish; scored; on the other side, which is about a third part, flat.

ESS. CHAR. *Fencelets* going half way round; of 3 leaves; pendant. *Fruit* scored.

fool's ÆTHU'SA *Cyna'pium*. All the leaves alike.—

Curt. i. 6.—Ger. em. 1061. 1, cop. in Park. 933. 2, and Pet. 28. 3, *rundle* but just unfolded.—Blackw. 517, *fences* too short.—H. ox. ix. 7. n. 2, fig. 1st.—(J. B. iii. 6. 180, seems to be a different plant.—Ger. 905. 1, not the plant.) At

At once distinguished by its *fencelets*. RELH.—Stem slightly furrowed. Leaves doubly winged; leaflets divided into 3 segments, which are again deeply cloven into 3 or 5. Rundle, spokes often 18 or more. WITH.—Stem branched. Leaves smooth, glossy. Petals whitish. Seeds very large.

Fool's Parsley. Lesser Hemlock.

Corn fields, and kitchen gardens.

A. Aug. Sept.

This plant, from its resemblance to common parsley, has sometimes been mistaken for it, and when eaten it occasions sickness. If the curled-leaved parsley only was cultivated in our gardens, no such mistakes would happen.

Cows, Horses, Sheep, Goats, and Swine eat it. It is noxious to Geese.

ÆTHU'SA *Meum*. All the leaves divided into *Spiguel* many bristle-shaped segments.—

Ludw. 66, as cultivated.—*Jacq. austr.* iv. 303, as growing wild.—

Clus. ii. 193. 2, repr. in *Dod.* 305, *Lob. obs.* 449. 2, *ic.* i. 777.

1, *Ger. em.* 1052. 1, and cop. in *Park.* 888. 1.—*H. ox.* ix. 2.

row 1. fig. 2.—*Blackw.* 525.—*Matth.* 24, cop. in *Ger.* 895.—

Tourn. 165, leaf and parts of fructification.—*Fuchs.* 231, cop.

in *J. B.* iii. 6. 11.—*Trag.* 445.

General fence none, or but rarely, of 1 leaf. Partial fence from the side as in this genus. Petals white. LINN.

Athamanta Meum. Sp. pl. which see.—*Ligusticum Meum*. CRANTZ.

—*Seseli Meum*. SCOP.—*Meum athamanticum*. JACQ.

Spiguel. Spicknel. Meu. Bald or Bawd-money.

Mountainous pastures in the northern counties. Near Dolgehle, Merionethshire.

P. May.

The roots and seeds are aromatic and acrid. They have been used as stomachics and carminatives. Sometimes they are given to cure tertians; and there is no doubt but they will often answer as well as pepper, and other acrid aromatics. WITH.

386. CORIAN'DRUM. Coriander.

Rundle of few spokes. *Rundlets* of many. *General Fence* for the most part wanting; but sometimes there is a single leaf.

EMPAL. *Partial Fence* 3 strap-shaped leaves; going half way round. *Cup* with 5 teeth; standing out.

BLOSS. *General*; irregular in its shape and unequal. *Florets* in the centre barren. *Individuals* of the centre with both chives and pointals; *petals* 5; equal; heart-shaped; but bent inwards. *Individuals* of the circumference with both chives and pointals. *Petals* 5; heart-shaped; but bent inwards; the outermost largest; divided; those on each side of it most deeply divided.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; distant. *Summits* in the florets of the circumference roundish.

S. VESS. None. *Fruit* globular; divisible into 2.

SEEDS. 2; hemispherical; concave.

ESS. CHAR. *Blossom* radiated. *Petals* bent in, and nicked. *General Fence* of 1 leaf. *Partial Fence* going half way round. *Fruit* spherical.

common

CORIAN'DRUM *sativum*. Fruit globular.—

Ludw. 37.—*Blackw.* 176.—*Fuchsf.* 345, *cop. in J. B.* iii. 6. 89.

—*Dod.* 302. 1 and 2, *repr. in Lob. obs.* 403, *ic.* i. 705. 2, *Ger. em.* 1012. 1 and 2, and *cop. in Park.* 918. 1 and 2.—*Ger.* 859.

—*Matth.* 763.—*Trag.* 115.—*Lon.* 79.

Petals white.

Corn fields, road sides, and dunghills.

A. June. July.

The leaves have a strong disagreeable scent. The seeds are grateful to the taste, and incruited with sugar are sold by the confectioners under the name of Coriander comfits. The Edinburgh college use them as correctors in the bitter infusion and the preparations of fenna, nothing so effectually covering the disagreeable taste of that medicine. They have been considered as suspicious if not deleterious, but I have known 6 drams of them taken at once, without any remarkable effect. WITH.

387. SCAN'DIX. Shepherds-needle.

Rundle long; with few spokes. *Rundlets* with more. *General Fence* wanting.

EMPAL. *Partial Fence* of 5 leaves; as long as the *rundlets*. *Cup* not distinguishable.

BLOSS. *General*; irregular in its shape and unequal. *Florets* in the centre barren. *Individuals*; petals 5; heart-shaped; bent inwards; the inner ones small; the outer ones larger.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* beneath; oblong. *Shafts* 2; awl-shaped; distant; permanent; as long as the smallest petal. *Summits* in the unequal *florets* blunt.

SESS. None. *Fruit* awl-shaped; very long; divisible into 2.

SEEDS. 2; awl-shaped; convex and furrowed on 1 side; flat on the other.

ESS. CHAR. *Blossom* radiated. *Fruit* awl-shaped. *Pétals* nicked. *Florets* of the centre often with only *chives*.

OBS. In some species the *florets* of the centre are abortive. Number of the leaves of the *fencelets* uncertain.

SCAN'DIX *odora'ta*. Seeds furrowed; angular.— *sweet*

Jacq. *aust.* v. app. 37.—H. *ex.* ix. 10. 1.—Dod. 701. 1, repr. in *Lob. obs.* 423. 2, ic. i. 734. 1, *Ger. em.* 1039. 3, and cop. in *Park.* 935. 1, and *Ger.* 882. 2.—Blackw. 243.—(Matth. 1169, is not the plant.)

Leaves trebly winged; *little-leaves* with winged clefts; *segments* deeply and sharply serrated. *Seeds* longer than the *rundlets*. Mr. WOODWARD and ST.—*Stem* scattered with soft hairs. *Leaves* hairy underneath. *Rundles* on fruit-stalks, both lateral, and terminating. *Seeds* of a sweet agreeable taste. Whole plant of an aromatic scent. ST.

Cerfolium magnum *sive* Myrrhis. GER. *em.* 1039.—Myrrhis major vulgaris, *sive* Cerfolium magnum. PARK.

Sweet Cicely. Great Sweet Chervil. Sweet Fern.

Orchards and waste places, but always near houses. LIGHTF. ST.—And hedges. HUDS.—[Banks of the Derwent above Chatsworth. Mr. WHATELY.—Pretty common near Leeds, and certainly wild. Mr. WOOD.—Tixall, near Stafford. WITH.—In an orchard at the top of Soustons Roche, near Shellley Walsh, Worcestershire. Mr. BALLARD. ST.]

The

The seeds are used in the north of England for polishing and perfuming oak floors and furniture. MR. WOODWARD.

common SCAN'DIX *Pecten*. Seeds with a very long bill.—
Jacq. austr. iii. 263.—*Fl. dan.* 844.—*Dod.* 701. 2, repr. in *Lob. obs.* 419. 2, ic. i. 726. 2, *Ger. em.* 1040. 1, and cop. in *Park.* 916. 1.—*J. B.* iii. 6. 71. 2.—*H. ox.* ix. 11. row 2. 1.—*Math.* 527, cop. in *Ger.* 884.

Seeds thread-shaped, containing a kernel at the base. LINN.—
Stem a foot high and upwards, upright, branching, round, somewhat zigzag. *Leaves* smooth; doubly winged; leaflets alternate, with many clefts; segments strap-shaped, pointed. *Leaf-stalks* channelled, embracing the stem at the base, fringed. *Rundle* often fitting, spokes 2 or 3. *Rundlets*, spokes 10. *Fencelets*, leaves with many clefts, serrated, pointed. *Bloss.* in the centre, regular, with only chives; in the circumference with only pointals, irregular. LYONS.—*Bill* flattened, 2-edged; angles with fine prickles pointing upwards. MR. HOLLEFEAR.—*Stems* a little hairy, scored. *Leaves* doubly winged; leaflets with winged clefts. *Leaf-stalks* and *fruit-stalks* smooth. *Fruit* flattened at the base, finely serrated at the edges. The glandular receptacle crowning the seed-bud of a fine purple. By carefully dividing the seed-bud after it has shot out an inch or more in length, a tube continued from the shafts down to the seeds may be discovered. *Petals* white. WITH.

Shepherds Needle. Crake Needle. Venus Comb.

Corn fields.

A. June. July.

Chervil SCAN'DIX *Cereseolium*. Seeds glossy, egg-awl-shaped. Rundles lateral, fitting. LINN.—Often on fruit-stalks from a line to an inch long. ST.

Jacq. austr. iv. 390.—*Fuch.* 216, cop. in *J. B.* iii. 6. 75, *Dod.* 700. 2, and abridged in *Trag.* 471.—*Ger. em.* 1038. 1.—*Math.* 526.—*Ger.* 882. 1.—*H. ox.* ix. 11. row 1. 1.—*Lonic.* 1. 238.—*Blackw.* 236.

Florets all fertile. MENCH. ST.—*Stem* smooth, but beset (towards the base of the joints) with an almost imperceptible downiness. *Leaf-stalks* sheath-like, with a woolly fringe at the edge. Sometimes a general fence of 1 leaf, bent back. CRANTZ. ST.—*Leaves* of an exceedingly delicate texture, edges and mid-rib slightly hairy. *Rundles* sometimes from the forks of the stem; *spokes* woolly, generally 4, but sometimes 3 and 5; those of the *rundlets* 10 and 12. *General fence* leaf, strap-shaped. *Bloss.* white. *Seeds* black, smooth, each with two blunt ridges. The whole plant if rubbed between the fingers gives out an agreeable aromatic scent. ST.

Cere-

Cerrefolium vulgare fativum. GER. em. 1038.

Common Chervil.

[Found near Worcester growing in considerable plenty in the hedge on the south east side of the Bristol road, just beyond the Turnpike, May 1775.—And in the hedges in Upper and Lower Old Swinford, though not to be discovered in any of the neighbouring gardens. I believe it like the *S. odorata* to be only a naturalized plant, as Linnæus informs us it is in Sweden: Str.]

A. May.

It is cultivated in our gardens as a pot-herb, and for fallads. It is slightly aromatic and aperient.

Cows are extremely fond of it. Sheep and Goats eat it. Horses refuse it.

SCAN'DIX *Anthrif'cus*. Leaves egg-shaped, rough rough with hair. Blossoms uniform. Stem smooth.—

Curt. i. 3.—Jacq. austr. ii. 154.—Fl. dan. 863.—Pet. 27. 12.—

H. ex. ix. 10. row 1. 2.—J. B. iii. 6. 182. 1.

Stem a cubit high, upright, branching, round, tubular, scored, smooth; knots rather swollen. Leaves winged with an odd one, hairy; wings opposite, 4 on each side, winged; leaflets cloven, pointed. Leaf-stalks channelled, woolly, and embracing the stem at the base; those on the stem very short. Fruit-stalks opposite to the leaves.

Rundle, spokes generally 3; rundlets, spokes 3, 4, and 5 rays. Fence-let, leaves spear-shaped, awn-pointed, permanent, sometimes 5.

Florets, all with chives and pointals. Petals nearly equal. Seeds egg-shaped, rough with hairs hooked upwards. Shafts upright.

LYONS.—Rundles on fruit-stalks, but sometimes sitting; fruit-stalks smooth; spokes smooth, from 2 to 5. Rundlets, spokes sometimes only 2. Haller and Scopoli have considered it as a *Caucalis*, but such a disposition separates it from the *S. Cerrefolium*, to which it is most closely allied both in habit and structure. Petals white. ST.

Rubbish, road sides.

A. May. June.

Cows, Goats, and Sheep eat it.

388. CHÆROPHYLLUM. Chervil.

Rundle expanding. *Rundlets* with nearly the same number of spokes.

EMPAL. *General Fence* none. *Partial Fence* of about 5 leaves; spear-shaped; concave; reflected; nearly as long as the rundlets. *Cup* not discernible.

BLOSS. *General*; pretty uniform. *Florets* in the centre generally barren. *Individuals*; petals 5; heart-shaped; bent inwards; flattish; with a sharp point bending inwards; the *outermost* petals rather the largest.

CHIVES. *Threads* 5; simple; as long as the rundlet. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VES. None. *Fruit* oblong-egg-shaped; taper; smooth; divisible into 2.

SEEDS. 2; oblong; growing smaller upwards; convex on one side; flat on the other.

ESS. CHAR. *Fence bent back*; concave. *Petals heart-shaped*; bent in. *Fruit oblong*; smooth.

OBS. *Seeds* of the centre often barren. *Figure* of the fruit variable.

Cow-weed CHÆROPHYLLUM *folves'tre*. Stem smooth, scored, a little swollen at the knots. LINN.—Smooth to the touch, but generally woolly. Lesser branches smooth. ST.

Gal. iv. 46.—Jacq. austr. ii. 149.—H. ox. ix. 11. 5.—Fuchs. 525.—Pet. 25. 2.—Lonic. i. 238.

Stem nearly furrowed. *General fruit-stalk* round. *Petals* entire, flat, the outer larger. *Rundle* somewhat radiated. LINN.—Stem when fully grown generally beset with a white downiness, but sometimes smooth. *Petiolets*, leaves egg-spear-shaped, hairy at the edge. *Blossom* at first yellowish white, but growing whiter when farther advanced. *Seeds* glossy, not furrowed, or scored. CRANTZ. ST.—Root generally branched. Stem mostly woolly. *Rundles* before their expansion nodding; *spokes* smooth. *Fencelets* twice as short as the rundlet. *Petals* flat, inversely egg-shaped, those of the outer florets of each rundlet somewhat inversely heart-shaped, and larger. CHAR.—*Rundles* when in blossom convex, in fruit flat. ST.—*Flowers* in the centre of each rundlet often barren. *Inner petals* gradually smaller. *Silfs* scarcely rising above the surface of the receptacle while in blossom, when in fruit expanding. ST.

Joints

Joints of the stem, leaf-stalks, and fencelets sometimes with a purplish tinge. *Shafts* permanent. WITH.

Wild Cicely. Cow-weed. Cow Parsley.

Hedges, orchards, and pastures.

P. LINN. CRANTZ. CURT. A. HUDS. Apr. May. June.

The roots eaten as parsneps have been found poisonous. The rundles afford an indifferent yellow dye; the leaves and stems a beautiful green. Its presence indicates a fruitful soil.

Neither Horses, Sheep, or Goats are fond of it. Cows and Swine refuse it. LINN.—A horse eat the young leaves. ST.—Cows and Rabbits are fond of it. In some parts of the kingdom, in times of scarcity, it is used as a pot-herb. CURT.—Cows are so fond of it, that when a pasture is over-run with it, as is often the case about Dudley, they always turn them in to eat it up. Mr. WAINWRIGHT.

CHÆROPHYL' LUM *tem'ulum*. Stem rough, swollen wild at the knots.—

Jacq. austr. i. 65.—Ger. 867, cop. in Ger. em. 1038. 2, and Park.

915.—*Pet. 25. 3.—H. ox. ix. 10. 7.—J. B. iii. 6. 70. 2 and 1.*

Rundles before flowering drooping. Stem but little furrowed; marked with purple spots, and set with white hairs which stand out. Rundlets in the centre barren. LINN.—Stem 1 or 2 cubits high, hairy, rough, solid. Leaves hairy, very finely winged; wings winged; lesser wings half winged, gradually decreasing. Fence wanting, or of 1 to 4 leaves. Fencelet of 1 leaf, with 6 to 8 leaflets. Rundles but few. Petals cloven. Seeds tawny, obscurely scored. Petals very white. RELHAN.

Wild Chervil.

Hedges.

A. July. Aug.

Cows and Sheep refuse it. LINN.—A horse eat the young leaves. ST.

389. IMPERATORIA. Masterwort.

EMPAL. *General Rundle* expanded; flat; *partial* unequal.

General Fence none; *partial* of 1 or 2 leaves; very thin; nearly as long as the rundlet. *Cup* indistinct.

BLOSS. *General*; uniform. All the *florets* fertile. *Individuals*; *petals* 5; bent in; nicked; nearly equal.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; bent back. *Summits* blunt.

S. VESS. None. *Fruit* roundish; compressed; bulging in the middle; bordered; divisible into 2.

SEEDS. 2; egg-shaped; marked on the outside with 2 furrows; edged with a broad margin.

ESS. CHAR. *Fruit* roundish; compressed; bulging in the middle; bordered at the edge. *Petals* bent in; nicked.

common

IMPERATORIA *Ostru'thium*.—

Fuchf. 763, *cop. in J. B.* iii. 6. 137.—*Blackw.* 279.—*Park.* 942.

—*Trag.* 433.—*Matth.* 775.—*Lonic.* i. 228. 2.—*Clus.* ii. 194.

2, *repr. in Dod.* 320. 1, *Lob. obs.* 398. 1, *ic.* 700. 1, *Ger. em.* 1001. 1.—*H. ox.* ix. 4. row 1. 1.—*Garid.* 55.

Found by Mr. Lightfoot on the banks of the Clyde, particularly about Arden Caple, Isle of Bate, near Mount Stewart. [Near Bridgnorth, but in a situation that would allow of its being an outcast of a garden. WITH.] P. June.

Root warm and aromatic; a sudorific, diuretic, and sialagogue; recommended in dropfy, debilities of the stomach and bowels, and an infusion of it in wine is said to have cured quartans that have resisted the bark. ST.

392. PASTINA'CA. Parsnep.

Rundle of many spokes; flat. *Rundlets* of many spokes.

Fences none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals 5; spear-shaped; entire; rolled inwards.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* oval; compressed and flat; divisible into 2.

SEEDS. 2; oval; nearly flat on each side; bound round with a border.

ESS. CHAR. *Fruit* elliptical; compressed; flat. *Petals* rolled in; entire.

PASTINA'CA *sativa*. Leaves simply winged.— common
α. wild.

Fuchf. 753, *cop. in J. B.* iii. 6. 149, *H. ox.* ix. 16. 2.—*Matth.* 776.—*Ger.* 856.

Stem 2 or 3 cubits high, upright, stiff, angular, downy, hollow, branching. *Leaf-stalks* downy. *Leaflets* very soft, serrated, often with 3 lobes. *Rundle*, spokes 10 and upwards. *Rundlets*, spokes 20 and upwards. *Blossom* yellow. RELHAN.

Borders of ploughed fields, in limestone, [and Marle. ST.]

B. July.

β. Leaves broader.

garden

Fuchf. 751, *cop. in Dod.* 680. 2, *repr. in Ger. em.* 1025, and *cop. in J. B.* iii. 6. 150.—*Ger.* 870. 2.—*Matth.* 747; *cop. in Ger.* 870. 1; and also in *Dod.* 680. 1, which *repr. in Lob. obs.* 407. 2, *ic.* i. 709. 2, *Ger. em.* 1025. 1, and *cop. in Park.* 944.—(*Trag.* 440, seems to be *Daucus Carota*.)

The roots when cultivated are sweeter than carrots, and are much used by those who abstain from animal food in Lent: they are highly nutritious. In the north of Ireland they are brewed, instead of malt, with hops, and fermented with yeast. The liquor thus obtained is agreeable. The seeds contain an essential oil, and will often cure intermittent fevers.

Hogs are fond of the roots, and quickly grow fat with them.

393. SMYR'NIUM. Alexanders.

Rundle unequal; daily increasing. *Rundlets* upright. *Fence* none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* in the centre barren. *Individuals*; petals 5; spear-shaped; keeled underneath; slightly bent inwards.

CHIVES. *Threads* 5; simple; as long as the petals. *Tips* simple.

POINT. *Seed-bud* beneath. *Shafts* 2; simple. *Summits* 2; simple.

S. VESS. None. *Fruit* nearly globular; scored; divisible into 2.

SEEDS. 2; crescent-shaped; convex on one side, and marked with 3 angles; flat on the other.

ESS. CHAR. *Fruit* oblong; scored. *Petals* taper-pointed; keeled.

common SMYR'NIUM *Olusā'trum*. Stem-leaves 3-fingered; on leaf-stalks; ferrated.—

Ger. 864. 2.—Trag. 436, an improved copy of *Lonic.* i. 237. 2.—*Blackw.* 408.—*J. B.* iii. 6. 126, foliage.—*Dod.* 698. 1, repr. in *Lob.* i. 708. 2, *Ger. em.* 1019, and *cop.* in *Park.* 930. 1.—*Pet.* 24. 1.—*H. ox.* ix. 4. row 2. n. 1. fig. 3d.—(*Fuchf.* 760, is a different plant, as is evident from its general fence.—*Matth.* 773, *cop.* in *Pet.* 24. 12, has also a general fence.)

Root-leaves twice 3-fingered, *Uppermost stem-leaves* opposite, 3-fingered. *Sheaths* of the leaves torn and fringed. *Fencelets* very short. *Flowers* of the centre with only chives, those of the circumference with chives and pointals. LINN.—*Bloss.* irregular, of a whitish greenish hue. RELHAN.

Aliffanders.

Ditches and rocks on the sea coast. About Scarborough Castle, Deptford, Battersea, Vauxhall, and Nottingham. [Almost covers the south west end of Anglesea. PENN. wales ii. 253.—Bungay, Suffolk. Mr. Woodw.—Under the walls of York. Mr. Wood.—Between Great Comberton and Wollershill, under hedges near the Avon, Worcestershire. NASH.—Found by the Rev. Mr. Welles at Hill Croome, Worcestershire. Mr. BALLARD. ST.—And Pirton, plentifully. Mr. HOLLEFEAR.] B, May. June.

It

It was formerly cultivated in our gardens, but its place is now better supplied by celery.—It is boiled and greedily eaten by sailors returning from long voyages, who happen to land at the south west corner of Anglesea. PENNANT.

394. ANE'THUM. Dill.

Rundle of many spokes. *Rundlets* the same. *Fences* none. EMPAL. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals 5; rolled inwards; entire; very short.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; placed close together; but not very discernible. *Summits* blunt.

S. VESS. None. *Fruit* nearly egg-shaped; compressed; scored; divisible into 2.

SEEDS. 2; somewhat egg-shaped; convex and scored on one side; flat on the other.

ESS. CHAR. *Fruit* nearly egg-shaped; compressed; scored. *Petals* rolled in; entire.

ANE'THUM *Foenic'ulum*. Fruit egg-shaped.— Fennel

Sheldr. 15.—*Tourn.* 164, a leaf.—*Dod.* 297, repr. in *Lob. obs.*

448, ic. i. 775. 2, *Ger. em.* 1032, *Park.* 884.—*Blackw.* 288.

—*H. ox.* ix. 2. row 1. 1.—*Lonic.* 234, *foliage*.—*Fuchf.* 501, cop. in *Trag.* 448, and *J. B.* iii. 6. 3.—*Ger.* 877. 1.

Seeds not bordered with a membranaceous margin. LINN.—

Stem 2 cubits high. *Leaves* hair-like. *Petals* yellow. RELH.

Common Fennel. Finckle.

Chalk Cliffs. [Near Marazion, Cornw. plentiful. Mr. WATT.

Nottingham Castle. Mr. WHATELY.—Near Spetchly, Worcestershire. Str.] B. July. Aug.

β. Cultivated in gardens.

garden

Sweet Fennel.

The tender buds are useful in fallads.—The leaves boiled are used in sauce for several kinds of fish, and eaten raw with pickled fish.—In Italy the stalks are blanched as a winter fallad.—The seeds abound with an essential oil, which is carminitive and diuretic, but not heating.—The *Papilio machaon* feeds upon it.

395. CA'RUM. Caraway.

Rundle with 10 spokes; long; and often unequal. *Rundlets* crowded. *General Fence* often of 1 leaf; *partial* none.

EMPAL. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* in the centre barren. *Individuals*; unequal. *Petals* 5; unequal; blunt; heart-shaped; bent inwards at the end.

CHIVES. *Threads* 5; hair-like; as long as the petals; shedding. *Tips* very small; roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; very small. *Summits* simple.

S. VESS. None. *Fruit* oblong-egg-shaped; scored; divisible into 2.

SEEDS. 2; oblong-egg-shaped; convex on one side, and scored; flat on the other.

ESS. CHAR. *Fruit* egg-oblong; scored. *Fence* of 1 leaf. *Petals* keeled; bent in; nicked.

Obs. Some of the florets in the centre have neither chives nor pointals.

common CA'RUM Ca'ru.

Ludw. 156.—*Jacq. austr.* iv. 393.—*Tourn.* 160. 3, leaf.—*Blackw.* 529.—*Ger.* 879, cop. in *H. ox.* ix. 9. row 2. 1.—*Pet.* 26. 1.—*Dod.* 299. 2, repr. in *Lob. obs.* 418. 1, ic. i. 724. 1, *Ger. em.* 1034, and cop. in *Park.* 910.—(*Math.* 755, has egg-shaped leaflets; and *Fuch.* 396, cop. in *Trag.* 455, and *J. B.* iii. 6. 69, seems to me a different plant.)

Stem 1 to 1½ cubit high, solid, smooth, with expanding branches. *Leaves* long, smooth, wings in pairs; the first little wings cross-wise; segments flat, long, pointed. *Leafstalk* long, narrow, keeled. *Rundles* terminating. *Blossom* white or reddish.

RELH.—*Plant* quite smooth. *Stems* furrowed. *Leaves* doubly compound; leaflets in fives, in a sort of whorl, 2 of them longer; segments terminating in a reddish semi-transparent substance. *General fence* from 1 to 5 leaves. *Rundle*, spokes 9 to 12. *Florets* all fertile. *Tips* yellowish. *Petals* and *shafts* slightly tinged with red.

WITH.

Meadows and pastures. [Near Bury. Mr. CULLUM.]

B. May. June.

Parkinson says, the young roots are better eating than parsneps.—The tender leaves may be boiled with pot-herbs.—The seeds are

are used in cakes; incruſted with ſugar are called Caraway Comfits, and are diſtilled with ſpirituous liquors for the ſake of the flavour they afford.—The ſeeds were formerly recommended by Dioſcorides to pale-faced girls, and in more modern days their uſe in that caſe is not forgotten.—They are no deſpicable remedy in tertian agues.—They abound with an eſſential oil, which is antiſpaſmodic and carminative.—Sheep, Goats, and Swine eat it. Cows and Horſes are not fond of it.

396. PIMPINEL'LA. Anife.

Rundle of many ſpokes. *Rundlets* of ſtill more. *Fences* none.

EMPAL. *Cup* not very diſcernible.

BLOSS. *General*; nearly uniform. *Florets* all fertile. *Individuals*; *petals* 5; nearly equal; heart-shaped; but bent inwards.

CHIVES. *Threads* 5; ſimple; longer than the petals. *Tips* roundiſh.

POINT. *Seed-bud* beneath. *Shafts* 2; very ſhort. *Summits* nearly globular.

S. VESS. None. *Fruit* oblong-egg-shaped; diviſible into 2.

SEEDS. 2; oblong; narrow towards the point; convex and ſcored on one ſide; flat on the other.

ESS. CHAR. *Fruit* egg-oblong. *Petals* bent in. *Summits* nearly globular.

PIMPINEL'LA *Saxifraga*. Leaves winged. Leafſits *Saxifrage* of the root-leaves roundiſh; thoſe of the upper-leaves ſtrap-shaped.

Jacq. auſtr. iv. 395.—*Fl. dan.* 669.—*Blackw.* 472.—*Cluſ.* ii. 197. 2, repr. in *Dod.* 315. 2, *Lob. obſ.* 413. 1, *ic.* i. 719. 2, *Ger. em.* 1044. 2, and cop. in *Park.* 947. 4.—*H. ox.* ix. 5. 7, a ſingle leaf.

Stem a cubit high and upwards, downy, ſcored, forked. *Rundles* and *rundlets*, ſpokes 8 to 20. *Bloſſom* yellowiſh white. *Shafts* permanent. RELHAN.

Bipinella ſive Saxifraga, &c. GER. em. 1044. (ST.)

Small Burnet *Saxifraga*.

β. LINN. All the leaves entire. ST.

round-leaved

Ger. 887. 1 and 2, which laſt cop. in *J. B.* iii. 6. 111. 2.—*H. ox.* ix. 5. 6.—*Trag.* 466.—*Fuchſ.* 609, cop. in *J. B.* ib. 1.—*Mauh.* 1032,

γ. Root-leaves

fine-leaved γ . Root-leaves (also) jagged. LIGHTF. ST.—Leaflets with many divisions; segments somewhat hook-like, pointed. RETZIUS—It scarcely deserves the distinction even of a variety. Root-leaves of both sorts frequently rising from the same root. MR. WOODW.

Retz. iii. 2.—Pet. 26. 8.—[Moris. umb. t. 5, an excellent figure. MR. WOODWARD.]

P. dissecta. RETZ. obs. iii. 46, corresponds with my specimens, and appears to me to be a variety of *P. Saxifraga*, and not the *P. Saxifraga major degener* H. ox. III. f. 9. t. 5. f. 3, as he supposes, which is a variety of *P. magna*. Retzius informs us that the earlier leaflets of the first year are roundish. ST.

Dry gravelly pastures.

P. Aug. Sept.

Horses, Cows, Goats, Sheep, and Swine eat it.

great PIMPINEL'LA *mag'na*. All the leaves lobed; the odd one with 3 lobes. LINN.—Leaves winged. Leaflets egg-shaped. HUDS.

Jacq. austr. iv. 396.—Dod. 315. 1, repr. in Lob. obs. 413. 2, ic. i. 720. 1, Ger. em. 1044. 1, and cop. in Park. 947. 1.—Fuchf. 608, cop. in J. B. iii. 6. 109, Barr. 243.—Barr. 243.—H. ox. ix. 5. row 1. 1.—Pet. 26. 5.—Lonicer. 229. 2.—(Ger. 887. 1, Trag. 466, and perhaps Matth. 1032, appear from the leaflets tapering at the base to be *P. Saxifraga*. β .)

Leaflets broader than they are long, serrated, as if besmeared with oil, veined, of the appearance of those of *Skirrets*, none circular, strap-shaped, or divided into many parts. Leaf-stalks compressed. LINN.—Varies with leaflets heart-egg-shaped, lobed, serrated, and cut-serrated. HUDS.—Stem 2 to 3 feet high, furrowed. Stem-leaves gradually narrower, at length strap-shaped, almost entire. Rundle, spokes 14. Rundlet, spokes 10 to 18. Petals white. RELH.—Leaflets deeply and irregularly serrated. MR. WOODWARD. ST.—Heart-egg-shaped, with one of the incisions on each side deeper than the rest. Blossom white. ST.

Great Burnet Saxifrage.

Woods and hedges, in limestone. [Ripton Wood, Huntingdonshire. MR. WOODW.—Worcestershire. MR. BALLARD. ST.—In marle. ST.]

P. Aug. Sept.

A Horse eat it. ST.

purple β . LINN. Blossoms pale rose-colour. With the former. ST.

Pimpinella Saxifraga major flore rubente. PARK. 946.

fine-leaved β . HUDS. All the leaves jagged. RAY.

Pet. 26. 6.—H. ox. ix. 5. row 3. 8.

Hedges near Maidstone, Kent. RAY.

This

This and the former species partake nearly of the same qualities. The root is very acrid, burning the mouth like pepper. It affords a blue oil. Its acrimony hath occasioned it to be used to cure the tooth-ache, and to cleanse the skin from freckles. It is chewed to promote the secretion of saliva, and is used in gargles for dissolving viscid mucus in the throat. In Germany it is prescribed in the asthma and dropfy.—The *Papilio Machaon* is found upon both species.

PIMPINEL'LA *dioica*. Rundles very numerous, *leaf* compound and simple. LINN.—Leaves mostly doubly winged. Leaflets strap-shaped, simple, and 3-fingered. Flowers with chives and pointals on distinct plants. HUDS.

Jacq. austr. i. 28.—*Clus.* ii. 200. 1, repr. in *Ger. em.* 1054. 3, and cop. in *Ger.* 863, and *J. B.* iii. 6. 18. 1.—*Lob. adv.* 331. 2, cop. in *ic.* i. 745. 2, which repr. in *Ger. em.* 1021. 3.

Stem a hand's breadth high, straddling, smooth, scored, with but few leaves. Leaves 3 or 2-fingered, strap-shaped. Rundles 1 terminating, and 2 lateral, opposite, generally compound, some few simple. Petals long-spear-shaped, bowed in, not nicked. Chives white, long. Fences none. Some plants with only chives, others with chives and pointals. Nearly allied to *P. glauca*, or constituting a distinct genus. LINN.—Root spindle-shaped, perpendicular, somewhat branched at the base, and woolly at the head. Stem 8 to 16 inches high, upright, angular, very much branched. Branches open. The lower leaves opposite, on leaf-stalks, winged and doubly winged; leaflets simple, and in threes, strap-shaped; channelled, bare, sea-green. Leaf-stalks membranaceous, sheathing, oblong, scored, entire. Rundles on leaf-stalks, terminating, and from the bosom of the leaves; general, spokes long, about 6; partial crowded, spokes short, about 5. Flowers yellowish or whitish. FLOWERS WITH ONLY CHIVES. Petals oblong, bowed in at the point, equal. Threads awl-shaped. FLOWERS WITH POINTALS. Threads 5, but the tips barren. Shafts distant. Fruit egg-shaped. HUDS.

Mountainous pastures. St. Vincent's Rock, near Bristol. Uphill, Somersetshire. P. May. June.

397. A'PIUM. Parsley.

Rundle with few spokes. *Rundlets* with many.

EMPAL. *General Fence* none; or else of one or more leaves.

Partial Fence the same. *Cup* hardly perceptible.

BLOSS. *General*; uniform. *Florets* almost all fertile. *Individuals*; petals circular; equal; bent inwards.

CHIVES. *Threads* 5; simple. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; reflected. *Summits* blunt.

S. VESS. None. *Fruit* egg-shaped; scored; divisible into 2.

SEEDS. 2; egg-shaped; scored on one side; flat on the other.

ESS. CHAR. *Fruit* egg-shaped; scored. *Fence* 1 leaf. *Petals* equal.

Smallage

A'PIUM *grave'olens*. Stem-leaves wedge-shaped.—

Ludw. 180.—*Fl. dan.* 790.—*Blackw.* 443.—*Ger.* 862, *cop. in H. ox.* ix. 9. 8.—*Fuchf.* 744, *cop. in J. B.* iii. 6. 100, and *Trag.* 464.—*Pet.* 26. 12.—*Matth.* 768, *cop. in Dod.* 695, which repr. in *Lob. obs.* 405. 2, *ic.* i. 707. 1, *Ger. em.* 1014, and *cop. in Park.* 926, *rundles*, as also in *Pet.* represented as on long fruit-stalks, and with a general fence.

General fence often wanting. LINN.—*Stem* angular, furrowed. *Rundles* sitting, or on a fruit-stalk; spokes about 15. *Bloss.* white. *Seeds* small. RELHAN.—*Stem* smooth, shining, deeply furrowed. *Rundles*, some sitting, others on long fruit-stalks, appearing as if proliferous. MR. WOODWARD.—*Root-leaves* winged. *Leaflets* divided into 3 lobes, serrated. *Rundles*, spokes 5 to 11; those of the *rundlets* 11 to 16. *Petals* white.

Smallage.—Ditches and marshes. [Salt Marshes, near Yarmouth, and in the midland counties. MR. WOODW.—Bog near Marazion, Cornwall. MR. WATT.—Moors, Sanfom Fields, Worcester. ST.]

B. Aug.

The root in its wild state (when it grows near water, ST.) is fetid, acrid, and noxious; but when cultivated (in dry ground, ST.) it loses these properties, and the root and lower part of the leaf-stalks and stem blanched by covering them up with earth, are eaten raw, boiled in soups, or stewed. In this latter state it is called *Celery*. They are said to be hurtful to people subject to nervous complaints. They are certainly good antiscorbutics. The seeds yield an essential oil.

Sheep and Goats eat it. Cows not fond of it. Horses refuse it.

398. ÆGO-

398. ÆGOPODIUM. Goutweed.

Rundle of many spokes; convex. *Rundlets* the same, but flat. *Fences* none.

EMPAL. *Cup* hardly discernible.

BLOSS. *General*; uniform. *Florets* all fertile. *Individuals*; petals 5; inversely egg-shaped; equal; concave; bent inwards at the point.

CHIVES. *Threads* 5; simple; twice as long as the petals. *Tips* roundish.

POINT. *Seed-bud* beneath. *Shafts* 2; simple; upright; as long as the petals. *Summits* roundish.

S. VESS. None. *Fruit* oblong-egg-shaped; scored; divisible into 2.

SEEDS. 2; oblong-egg-shaped; convex and scored on one side; flat on the other.

ESS. CHAR. *Fruit* egg-oblong; scored.

ÆGOPODIUM *Podagra'ria*. Upper stem-leaves *Gerard's* 3-fingered.—

Fl. dan. 670.—*Ger.* 848, *cop. in J. B.* iii. 6. 145.—*Dod.* 320.

2, *repr. in Lob. obs.* 398. 3, *ic. i.* 700. 2, *Ger. em.* 1001. 2, and *cop. in Park.* 943, *Pet.* 25. 10, and *H. ox.* ix. 4. 11.

Upper leaves opposite. LINN.—Root creeping. Stems 1 or 2 cubits high, furrowed, with open branches. *Rundles* and *Rundlets*, spokes 14. Blossom white. RELH.—Leaves spear-shaped, serrated. Mr. WOODWARD.—Lower leaf-stalks 3-cornered, the lower sides flat, the upper hollow. WITH.—Roots creeping. Leaves, ramifications of both surfaces beset with very short minute hairs. Petals white. ST.

Herb Gerard. Goutweed. Ashweed. Ground Ash.

Orchards, gardens, and pastures, common. P. May.

The leaves may be eaten early in the spring with other pot-herbs.

Cows, Sheep, and Goats eat it. Horses are not fond of it.

LINN.—It sometimes proves a very troublesome weed in gardens. ST.

Order III.

TRIGYNIA; III. POINTALS.

399, VIBUR'NUM. Mealytree.

EMPAL. Cup with 5 teeth; superior; very small; permanent.

BOSS. 1 petal; bell-shaped; with 5 shallow clefts. Segments blunt; reflected.

CHIVES. Threads 5; awl-shaped; as long, or twice as long as the blossom. Tips oblong; double.

POINT. Seed-bud beneath; roundish. Shaft none; but instead thereof a turban-shaped gland. Summits 3.

S. VESS. Berry roundish; 1 cell.

SEED. Single; roundish; hard as bone.

ESS. CHAR. Empal. 5 divisions; superior. Bloss. 5 clefts. Berry 1 seed.

pliant VIBUR'NUM *Lanta'na*. Leaves heart-shaped, serrated, veined, cottony underneath.—

Jacq. austr. iv. 341.—Matth. 217, cop. in Dod. 781, which repr. in Lob. obs. 591. 3, Ger. em. 1490.—Walc.—Park. 1448, cop. in J. B. i. 558.

Leaves oval, the down radiated, each hair consisting of several rays diverging from a point, Flower-leaves coloured. Bloss. cloven half way down. Summits so much united as to appear as one. Blossoms white. Berries black. WITH.

Pliant Mealy-tree. Way-faring-tree.

Woods and hedges, in calcareous soil. [Herts, frequent. Mr. WOODWARD.—Ripple Field, Worcestershire. Mr. BALLARD.]

S. May.

The bark of the root is used to make bird-lime. The berries are drying and astringent.

Guelder-rose VIBUR'NUM *Op'ulus*. Leaves lobed. Leaf-stalks beset with glands.—

Fl. dan. 661.—Ger. 1236. 1.—Dod. 846. 1, repr. in Ger. em. 1424. 1.—Park. 209. 5.—Trag. 1002.—Matth. 1269.—J. B. i. 553.

Flowers

Flowers of the circumference without chives or pointals. *Rundles* flat-topped. ST.—*Blossoms* white. *Berries* red.

Water Elder.

Woods and wet hedges. S. May. June. *Berries* ripe in Sept. W.

The *Guelder Rose* is a variety of it in which the whole of the *bundle* consists of neutral florets, and is contracted into a globular form. ST.

Cows, Goats, and Sheep eat it. Horses are not fond of it.

402. SAMBU'CUS. Elder.

EMPAL. *Cup* superior; of 1 leaf; very small; with 5¹ divisions; permanent.

BLOSS. 1 *petal*; wheel-shaped; but somewhat concave; with 5 clefts; blunt. *Segments* reflected.

CHIVES. *Threads* 5; awl-shaped; as long as the blossom. *Tips* roundish.

POINT. *Seed-bud* beneath; egg-shaped; blunt. *Shaft* none; but instead thereof a bellying gland. *Summits* 3; blunt.

S. VESS. *Berry* roundish; of 1 cell.

SEEDS. 3; convex on one side; angular on the other.

ESS. CHAR. *Empal.* 5 divisions. *Blossom* 5 clefts. *Berry* 3 seeds.

SAMBU'CUS *Ebulus*. Tufts of 3 spokes. Leaf- dwarf scales leafy. Stem herbaceous.—

Curt. iii. 36.—*Blackw.* 488.—*Mill.* 126.—*Matth.* 1270, *cop.* in

Lob. obs. 589. 2, which repr. in *Ger. em.* 1426, and *J. B. i.* a 549.

2.—*Fuchf.* 65.—*Ger.* 1238.—*Trag.* 796.—*Park.* 209. 7.

Stems very brittle. Leaves winged, with several pair of leaflets.

Leaflets spear-shaped, serrated, unequal at the base, the upper margin deficient. Sometimes small leaves grow at the base of the leaf-stalks, and also on the leaf-stalks of the larger leaflets. Mr.

WOODWARD.—Stem and leaf-stalks furrowed. Little-leaves at the base of the leaf-stalks heart-shaped. Leaflets, serratures purple at the points.

Empal. segments sometimes 6, purple. Bloss. segments pointed.

Threads thick, wrinkled. Berry 3 cells. Bloss. white above; purple beneath. Chives white. Tips purple; one fixed on each side

of every thread, so that there are properly speaking 10 tips.

WITH.

Dwarf Elder. Wallwort. Danewort.

Hedges and road sides.

S. July.

Has

Has the same medical properties with the *S. nigra*, but in some respects more violent, and therefore less manageable. A dram and a half of the root is a strong purge.—The berries give out a violet colour.—The green leaves drive away mice from granaries, and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which they are liable.

Neither Cows, Goats, Sheep, Horses, or Swine will eat it.

common SAMBU'CUS *nigra*. Tufts of 5 spokes. Leaves winged. Leaflets nearly egg-shaped, serrated. Stem woody. LINN.—Leaves winged. Little-leaves somewhat egg-shaped, serrated. RETZ. *obs.* iii. 47. ST.

Fl. dan. 545.—*Blackw.* 151, the best fruit.—*Matth.* 1268, *cop. in Ger.* 1234.—*Fuchf.* 64.—*Ger. em.* 1422. 1.—*Dod.* 845. 1, *repr. in Ger. em.* 1422. 2, and *cop. in Park.* 208. 1.—*Trag.* 997.—*J. B. i. a.* 544.

Leaves winged; leaflets 5 to 7, somewhat egg-shaped, pointed, serrated. Summit spotted. Berries green, at length blackish purple, with a juice of the same colour. Seeds 3. RELH.—Blossoms white. Berries black. Tips yellow, arrow-shaped, one on each thread.

Woods and damp hedges.

S. Apr. May.

The whole plant has a narcotic smell; it is not well to sleep under its shade.—The wood is hard, tough, and yellow. It is commonly made into skewers for butchers; tops for angling rods; and needles for weaving nets. It is not a bad wood to turn in the lathe.—The inner green bark is purgative, and may be used with advantage where acid purgatives are requisite. In smaller doses it is diuretic, and has done eminent service in obstinate glandular obstructions, and in dropsies. If sheep that have the rot are placed in a situation where they can get at the bark and the young shoots, they will soon cure themselves. It is an ingredient in the black dye.—The leaves are purgative like the bark, but more nauseous. They are an ingredient in several cooling ointments. If turneps, cabbages, fruit-trees, or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of elder, the insects will not attack them. *Phil. Transf.* v. 62. p. 348. A decoction of the flowers, taken internally, is said to promote expectoration in pleurifies. If the flowers are fresh gathered they loosen the belly. Externally they are used in fomentations to ease pain and abate inflammation. Many people use them to give a flavour to vinegar. They are fatal to turkies. A rob prepared from the berries is a gentle opener, and promotes perspiration. The juice of the berries is employed to give

give a red colour to raisin or sugar wines. The berries are poisonous to poultry.—The *pith* being exceedingly light, is cut into balls, used in electrical experiments.

Sheep eat it. Horses, Cows, and Goats refuse it. LINN.—Others say that Cows are fond of it.—The *Aphis Sambuci*, and the *Phylloxera Sambucaria*, are found upon it.

β. Berries white or green.

white-berried

Staffordshire, Warwickshire, and Shropshire. WITH. ST.

A wine is made of the fruit, which by many is held in much esteem. ST.

γ. LINN. HUDS. *S. laciniata*. MILL. and RETZ. which see. parsley leaved

SAMBU'CUS *laciniata*. MILL. DU ROI.—Tufts with 5 divisions. Leaves doubly winged; wings 3-fingered; leaflets spear-shaped, cut. RETZ. *obs.* iii. 47. MURR. in *Syll. veg.* ST. *parsley leaved*

Ger. 1234. 2.—Dod. 845. 2, repr. in Lob. *obs.* 589. 2, Ger. *em.* 1422. 3, and cop. in J. B. i. a. 549. 1.—Park. 208. 3.

Its having tufts with 5 divisions, and a perennial trunk, will not induce me to believe that it originated from the *S. nigra*. RETZ. ST.—The want of serratures principally induces me to accede to the opinion of the above authors. Add to this that they are not known to run into one another, and that the *laciniata* has been found growing wild in very distant countries. ST.

In hedges, near Manchester, Bristol, Dartford, and Walsoken, near Wilbech. S.

404. STAPHYLE'A. Bladder-nut. I

EMPAL. *Cup* with 5 divisions; concave; roundish; coloured; nearly as large as the blossom.

BLOSS. *Petals* 5; oblong; upright; resembling the cup. *Honey-cup* concave; distended; situated at the bottom of the flower, upon the receptacle.

CHIVES. *Threads* 5; oblong; upright; as long as the cup: *Tips* simple.

POINT. *Seed-bud* rather thick, with 3 divisions. *Shafts* 3; simple; somewhat longer than the chives. *Summits* blunt; contiguous.

5. VESS. *Capsules* 3; bladder-shaped; limber; jointed by a seam lengthways; tapering at the points; opening inwardly.

SEEDS 2; hard as bone; somewhat globular; obliquely tapering; with a circular pit at the side, near the point.

ESS. CHAR. *Empal.* 5 divisions. *Petals* 5. *Capsules* inflated, growing together. *Seeds* 2; globular; with a scar.

winged STAPHYLE'A pinna'ta. Leaves winged.—

Matth. 274.—*Lonic.* 30. 2.—*Lob. obs.* 540. 2, cop. in *Park.* 1418, and *J. B. i. a* 274.—*Ger.* 1249.—*Trag.* 1098.—*Dod.* 818, repr. in *Ger. em.* 1437.

Shafts 2. *Fruit*, cells 2. LINN. WITH.—*Shafts* sometimes 2, but mostly 3. *Capsule* 3 cells. *Seeds* constantly 2, in the larger cells, that in the third abortive. LEERS.—*Bloss.* in whorls; white.

Bladder-nut-tree.

Hedges, near Pontefract, Yorkshire. RAY.—About Ashford, Kent. PARK. S. June.

409. CORRIGIO'LA. Strapwort.

EMPAL. *Cup* permanent; about the size of the blossom; of 5 leaves; egg-shaped; concave; expanding; membranaceous at the edge.

BLOSS. *Petals* 5; egg-shaped; expanding; scarcely larger than the empalement.

CHIVES. *Threads* 5; awl-shaped; small. *Tips* simple.

POINT. *Seed-bud* egg-shaped; 3-cornered. *Shaft* none. *Summits* 3; blunt.

S. VESS. The *Cup* approaching.

SEED 1; egg-shaped; three-square.

ESS. CHAR. *Empal.* 5 leaves. *Petals* 5. *Seed* 1; three-square.

sand CORRIGIO'LA littora'lis.—

Fl. dan. 334.—*J. B. iii.* 379. 2.—*H. ox. v.* 29. 1.

[Found by Mr. Hudson on Slapham Sands beyond Dartmouth and near the Star Point. Mr. MARTYN.]

411. ALSI'NE. Chickweed.

EMPAL. *Cup*, 5 leaves; concave; oblong; tapering.

BLOSS. *Petals* 5; equal; longer than the cup.

CHIVES. *Threads* 5; hair-like. *Tips* roundish.

POINT. *Seed-bud* nearly egg-shaped. *Shafts* 3; thread-shaped. *Summits* blunt.

S. VESS. *Capsule* egg-shaped; of 1 cell; covered by the cup.

SEEDS numerous; roundish.

ESS. CHAR. *Empal.* of 5 leaves. *Petals* 5; equal. *Capsule*, 1 cell; 3 valves.

Obs. In *A. media* the chives soon fall off, so that it is not unusual to find flowers with fewer than 5 chives. LINN.—A genus totally artificial, combining plants which seem to agree only in the number of chives and shafts. The *A. media* and the *Cerastium* are undoubtedly of one and the same genus. The other 2 species have entire petals. ST.

ALSI'NE *me'dia*. Petals divided into 2. Leaves common egg-heart-shaped.—

1. *pentstemon*. OED. fl. dan. ST.

5 chived

Fl. dan. 525.—*Curt.* i. 12.—*Sheldr.* 9.—*Walc.*—*Dod.* 29. 2, repr. in *Lob. obs.* 245. 3, *Ger. em.* 611. 2, and cop. in *Park.* 760, and *H. ox.* v. 23. 4.—*Blackw.* 164.—*Fuchf.* 21, cop. in *J. B.* iii. 6. 363, and *Trag.* 385.—*Lonic.* i. 167. 1 and 2.—*Ger.* 488. 2.

Flowers upright, and open from 9 in the morning to noon; but if it rains that day they do not open. After rain they become pendant, but in the course of a few days rise again. *Capsule* opens with 6 valves, letting fall the seeds. *Seeds* round, compressed, yellow, rough with little tubercles. *Bloss.* white.

This species is a notable instance of what is called the *Sleep of Plants*; for every night the leaves approach in pairs, so as to include within their upper surfaces the tender rudiments of the new shoots; and the uppermost pair but one at the end of the stalk, are furnished with longer leaf-stalks than the others, so that they can close upon the terminating pair and protect the end of the branch. LINN.—*Glands* containing honey at the base of the threads. Mr. HOLLEF.—*Fruit-stalks* and *empal.* hairy. WITH.

Shady places, gardens, and cultivated ground. A. Mar.—Oct.

The young shoots and leaves when boiled, can hardly be distinguished from spring spinach, and are equally wholesome.

Swine are extremely fond of it. Cows and Horses eat it. Sheep are indifferent to it; and Goats refuse it. It is a grateful food to the singing Fringillæ, (Linnets as the brown Linnet and Canary, ST.) to the rest of the small birds, and to young chickens.

Phalæna villica is found upon it. LINN.

10 chived 2. *decastemon*. OED. fl. dan. ST.

Fl. dan. 438.—*Ger.* 489.

Differs from the *A. media* in nothing but the number of its chives and the largeness of its leaves. MR. WOOD.—*Stems* cylindrical, but 2-edged, generally only one, but sometimes both the edges fringed with hairs bent downwards. *Fruit-stalks* thread-like, beset with short hairs. ST.

[Corby Castle, near Carlisle, and in hedges near Worcester. ST.]

Order IV.

TETRAGYNIA; IV. POINTALS:

415. PARNAS'SIA. Parnassia.

EMPAL. *Cup* with 5 divisions; permanent. *Segments* oblong; sharp; expanding.

BLOSS. *Petals* 5; nearly circular; scored; concave; expanding; margins imperfect. *Honey-cups* 5; each being a concave heart-shaped substance, furnished with 13 little shafts or pillars set along the edge; and each pillar terminated by a little globe.

CHIVES. *Threads* 5; awl-shaped; as long as the petals. *Tips* depressed; fixed side-ways to the threads.

POINT. *Seed-bud* egg-shaped; large. *Shafts* none; but instead thereof an open hole. *Summits* 4; blunt; permanent; growing larger as the seed ripens.

S. VESS. *Capsule* egg-shaped; with 4 angles; 1 cell and 4 valves. *Receptacle* in 4 parts; connected with the valves.

SEEDS numerous; oblong.

ESS. CHAR. *Empal.* 5 divisions. *Petals* 5. *Honey-cups* 5; heart-shaped; fringed; fringe with globular heads. *Capsf.* 4 valves.

PARNAS'SIA

PARNAS'SIA *palustris*—

marsh

Ludw. 110.—*Fl. dan.* 584.—*Dod.* 564. 3, repr. in *Lob. obs.* 330.1, *Ger. em.* 840. 1, and cop. in *Park.* 429. 2, and *H. ox.* xii.10. 3.—*Ger.* 691. 2.—*J. B.* iii. 537. 2.

Stem somewhat twisted. Whilst it is in flower, the feed-bud having neither *shaft* nor *summit*, is open at the top. The *chives* lay their tips alternately upon the orifice, and having discharged their dust, recede back to the petals. *LINN.*—*Stems* undivided, with 5 sharp corners. *Petals* a little scolloped at the edge, and slightly nicked at the end, white, with semi-transparent greyish veins. *Honey-cups* green, the globules yellow, from 10 to 15, generally 13. *Chives* only half as long as the petals, at first not longer than the feed-bud, but each in order becomes longer than the rest, as it sheds its dust on the orifice of the feed-bud, which closes as soon as all the tips have shed their dust. *Seed-bud* purplish. *S. vessel*, corners blunt. *WITH.*—*Root-leaves* heart-shaped, on long leaf-stalks. *Stem-leaves* sitting.

Grass of Farnassus.

Moist meadows in Wales and the northern counties. [Common in every boggy meadow in Norfolk. *Mr. Woodward.*—In Staffordshire and Worcestershire. *St.*]

P. Aug.

Horses and Goats eat it. Sheep are not fond of it. Cows and Swine refuse it. *LINN.*—A Horse refused it. *St.*

Order V.

PENTAGYNIA; V. POINTALS.

418. STAT'ICE. Thrift.

EMPAL. Common Cup different in different species. Cup 1 leaf; funnel-shaped. Tube narrow. Border entire; plaited; skinny.

BLOSS. funnel-shaped. Petals 5; narrow at the base; broader upwards; blunt; expanding.

CHIVES. Threads 5; awl-shaped; shorter than the blossom and fixed to the claws of the petals. Tips fixed sideways to the threads.

POINT. Seed-bud extremely small. Shafts 5; thread-shaped; distant. Summits sharp.

S. VESS. none. The tube of the cup closes and contains the seed; but the border continues expanded.

SEED single; very small; roundish; crowned with the cup.

ESS. CHAR. Empalement of 1 leaf; entire; plaited; skinny. Petals 5. Seed 1; superior.

common STAT'ICE *Arne'ria*. Stalk simple, with a head of flowers. Leaves strap-shaped.—

Walc.—Dod. 564. 1, repr. in Lob. obs. 242. 1, Ger. em. 602. 1, and cop. in Park. 1279. 13.—Ger. 482. 1.—J. B. iii. 336. 2.—Pet. 72. 8.—(H. ox. xv. 1. 29, is referred to by Hudson and Lightfoot, though not as a distinct variety. It is variety α of Linn. I do not know of its having been found in Great-Britain.)

Blossoms pink.

Thrift. Sea Gilliflower. Sea Cushion.

Meadows and rocks on the sea coast, and mountainous situations, as Snowdon, near Settle, and Ingleborough. [Wansley Dale, between Ascrig and Aysgarth. Mr. WOOD.—Wells, Norfolk: Southwold, Suffolk. Mr. WOODWARD.—All the rocky coast of Cornwall. Mr. WATT.—Inchkeith in the Firth of Forth. WITH.]

P. July. Aug. [May. June. WITH.]

It is much used in gardens as an edging for borders, and when in full blossom gives a glowing tinge to pastures on the sea coast.

Horses and Goats eat it. Sheep are not fond of it.

STATICE

S T A T ' I C E *Limo'nium*. Stalk panicled, cylindrical. *Lavender*
Leaves smooth, without strings, spit-pointed underneath.

Blackw. 481.—*Fl. dan.* 315.—*Matth.* 980.—*H. ox.* xv. 1. row 1.

n. 1. *f.* 4th.—*Dod.* 351, repr. in *Lob. obs.* 157. 3, *Ger. em.*

411. 1, and cop. in *Park.* 1234. 1, and *J. B.* iii. 876. 3.

Salt marshes, and rocks on the sea coast. [Wells, Norfolk;
Southwold, Suffolk. *Mr. Woodward.*] P. July.—Sept.

β. *LINN.*—Much smaller. Leaves gradually tapering to the rock
base, having no regular leaf-stalks. *RAY.* *Mr. Woodward.* *St.*

Lob. adv. 123, repr. in *Ger. em.* 411. 2.—(*Ger.* 332. 2, does
not appear to be the plant. The leaves are blunt, and not pointed
as in the other figures and my specimens.)

Blossoms of a very deep purple. *Mrs. Watt.*

We have 2 varieties corresponding with the above character.
In the one the leaves short and blunt, in the other longer and
more pointed. The sharp point at the end of the leaf mark them
both as belonging to this species. *Mr. Woodward.*

Harwich. Ramsgate. *RAY.*—[Cornwall. *Mrs. Watt.*—Lynn.
Mr. Woodward.]

β. *HUDS.*—Leaves longer, and taper-pointed. Flowers later.
RAY.

Sea banks near Walton, Essex; and between Heybridge and
Maldon. *RAY.*

S T A T ' I C E *reticulata*. Stalk panicled, lying flat. *matted*
The barren branches naked and bent backwards. Leaves
wedge-shaped, without any sharp points.—

Pluk. 42. 4.

Root-leaves oblong-wedge-shaped, on leaf-stalks. *Props* half em-
bracing the stem, awl-shaped, terminating in a long point, mem-
branaceous at the edge. *Mr. Woodward.*

Matted Sea Lavender.

On the Norfolk coast. [At Wells, Norfolk, abundantly. *Mr.*
Woodward.—At Blakeney, Messrs. *Crowe* and *Pitchford.*]

P. July. Aug.

419. LINUM. Flax.

EMPAL. *Cup* 5 leaves; small; spear-shaped; upright; permanent.

BLOSS. funnel-shaped. *Petals* 5; oblong; large; blunt; gradually expanding and growing broader upwards.

CHIVES. *Threads* 5; awl-shaped; upright; as long as the cup; alternating with these are the rudiments of 5 more. *Tips* simple; arrow-shaped.

POINT. *Seed-bud* egg-shaped. *Shafts* 5; thread-shaped; upright; as long as the chives. *Summits* simple; reflected.

S. VESS. *Capsule* globular; with 5 imperfect angles; 10 cells, and 5 valves.

SEEDS solitary; flattish egg-shaped; tapering; glossy.

ESS. CHAR. *Empal.* 5 leaves. *Petals* 5. *Capsule* 5 valves; 10 cells. *Seeds* solitary.

Obs. In *L. Radiola* one fifth in the number of parts is wanting.

* *Leaves* alternate.

common LINUM *usitatissimum*. Empalements and capsules spit-pointed. *Petals* scolloped. *Leaves* spear-shaped, alternate. *Stem* generally solitary.—

Ludw. 144. — *Blackw.* 160. 2. — *Fuchf.* 471, *cop.* in *J. B.* iii. 451.

— *Matth.* 414, *cop.* in *Dod.* 533, *Lob. obs.* 225. 1, *Ger. em.* 556, and *cop.* in *H. ox.* v. 26. row 2. 1. — *Lonic.* 153. 2. —

Blackw. 160. 1. — *Trag.* 353.

Stem cylindrical, *Petals* sky blue, scored with deeper coloured lines. *Threads* united at the base. *Shafts* blue, thicker towards the top. The inner edge of the cup a little fringed. WITH.

Corn fields and sandy pastures in Dorsetshire and Devonshire. [Near Cawston, Norfolk. Mr. BRYANT.—Corn fields, Ripton, Huntingdonshire. Mr. WOODWARD.—Downs, old pastures, and corn fields, near to commons about Redruth and Trelubbus, Cornwall. Mr. WATT.] A. July.

This valuable plant originally came from those parts of Ægypt which are exposed to the inundations of the Nile. The *seeds* yield, by expression only, a large proportion of oil, which is an excellent pectoral, as is likewise the mucilaginous infusion. They make an easy and useful poultice in cases of external inflammation; and they are the food of several small birds. After the oil is expressed, the remaining farinaceous part, called Oil Cake, is given to oxen, who soon grow fat upon it. The oil itself differs in several respects from

from other expressed oils; it does not congeal in winter, nor does it form a solid soap with fixed alkaline salts; and it acts more powerfully as a menstruum upon sulphureous bodies. When heat is applied during the expression it gets a yellowish colour, and a peculiar smell. In this state it is used by the painters and the varnishers.—The fibres of the *stem* are manufactured into linen; and this linen, when worn to rags, is made into paper.

LI'NUM *perenne*. Empalements and capsules blunt. *perennial*
Leaves alternate, spear-shaped; very entire. LINN.—
Empalement very entire and smooth. ST.

α. upright.

Mill. 166. 2.

Empal. leaves oval, hollow, with a short bluntish point at the end, not fringed or hairy, marked with 5 lines. *Bloss.* blue. ST.

Pastures and meadows in a calcareous soil. [Marham, Norfolk. Ixworth, Suffolk. Gogmagog Hills. Mr. WOODWARD.]

P. Junc. July.

β. Stem trailing. Both varieties rise from the same root. In trailing the upright the chives are longer than the pointals; in the trailing they are shorter. HUDS.

LI'NUM *angustifolium*. Empalements and capsules *narrowleaved*
taper-pointed. Stem branching, and somewhat declining at the base. HUDS.—Leaves very entire. Empalements fringed with hairs not tipped with glands. ST. Mr. WOODWARD.

(*Clus.* i. 318. 1, repr. in *Lob. obs.* 226. 2, is a pretty good representation of it, but from *Clusius's* description of blossoms of a deep blue, should seem to be *L. austriacum*, which this species a good deal resembles in habit; and not *L. tenuifolium* as C. B. makes it.)

Stems numerous, branched towards the top. Leaves spear-strap-shaped, stiff, pointed, scattered, hairy underneath, as far as the stem is trailing pointing upwards, above that in various directions. *Empal.* shorter than the capsule, egg-shaped, blunt, but ending in a sharp point, keeled with a prominent rib. *Bloss.* much smaller than that of *L. perenne*, pale reddish purple with darker lines; petals not absolutely entire. Shafts not bent back beyond the chives. Mr. WOODWARD and ST.—Except that in all my specimens the leaves are quite smooth. *Bloss.* not much above as long again as the empalement. ST.—Caps. and *empal.* sharp-pointed. Petals very entire. Stems many from one root. WITH.

L. tenuifolium. β. LINN.—*L. sylv. angust. et densior. fol. flore minore.* C. B. pin. 214.—(*Linum*, Haller 838, is referred to by Hudson, but

but appears to me to be what Haller himself considers it, *L. tenuifolium*. ST. MR. WOODWARD.)

Dry meadows and pastures. [Cornwall, frequent. HUDS. MR. WATT.—In Devonshire. Minster in the Isle of Shepey, and Deal. HUDS.] P. June. July.

** *Leaves opposite.*

purging L I'N U M *cathar'ticum*. Leaves opposite, egg-spear-shaped. Stem forked. Blossoms pointed.—

Ludw. 143.—*Curt.* iii. 26.—*Walc.*—*Blackw.* 368.—*J. B.* iii. 455. 2.—*Pet.* 55. 12.—*Ger. em.* 560. 5, *cop. in Park.* 1336. 10.—*Barr.* 1165. 1.

Before the flowers open they hang down. LINN.—*Threads* united, in form of a glass, inclosing the feed-bud. MR. HOLLEFEAR.—*Empal.* edge fringed with minute glands on foot-stalks. ST.—*Threads* united, forming a bag which incloses the lower half of the feed-bud. WITH.

Purging Flax. *Mill-mountain.* *Dwarf Wild Flax.*

Dry meadows and pastures. A. May.—July.

An infusion of 2 drams or more of the dried plant is an excellent purge, and has been given with advantage in many obstinate rheumatisms. It frequently acts as a diuretic. WITH.

Horses, Sheep, and Goats eat it.

All-feed L I'N U M *Radi'ola*. Leaves opposite. Stem forked. Chives and shafts 4.

Fl. dan. 178.—*Vaill.* 4. 6.—*Ray* 15. 3. at p. 348.—*Pet.* 59. 12.—*Michel.* 21.—*Ger. em.* 569. 2.

Blossoms white.

All-feed. *Least Rupture-wort.*

Moist sandy heaths.

A. Aug.

421. DRO'SERA. Sundew.

EMPAL. *Cup* 1 leaf; with 5 clefts; sharp; upright; permanent.

BLOSS. funnel-shaped. *Petals* 5; nearly egg-shaped; blunt; somewhat larger than the cup.

CHIVES. *Threads* 5; awl-shaped; as long as the cup. *Tips* small.

POINT. *Seed-bud* roundish. *Shafts* 5; simple; as long as the chives. *Summits* simple.

S. VESS. *Capsule* nearly egg-shaped; of 1 cell; opening with 5 valves at the top.

SEEDS numerous; very small; nearly egg-shaped.

ESS. CHAR. *Empal.* 5 clefts. *Petals* 5. *Capsule* 1 cell, 5 valves at the point. *Seeds* numerous.

DRO'SERA *rotundifolia*. Stalks from the root. *round-leaved*
Leaves circular. LINN.—Shafts 6. HUDS.

Sheldr. 39.—*Lob. obs.* 472. 2, repr. in *Ger. em.* 1556. 1, cop. in *Park.* 1052. 1. b. c, and *Pet.* 63. 10.—*Blackw.* 432.—*Thal.* 9. 1, cop. in *J. B.* iii. 761. 2.—*Barr.* 251. 1.—*Trag.* 529. 3, cop. in *Lonic.* 222. 2.—*Ger.* 1366. 1.

Leaf-stalks fringed at the base. *Blossoms* white.

Sundew. *Rosa folis.* *Redrot.* *Youthwort.* *Moorgrafs.*

Mossy bogs. [Malvern Chace on the side of the rivulet flowing from the Spa. Mr. BALLARD.—Birmingham Heath. WITH.]

P. July. Aug.

The whole plant is acrid, and sufficiently caustic to erode the skin; but some ladies know how to mix the juice with milk, so as to make it an innocent and safe application to remove freckles and sunburn. The juice that exudes from it unmixed will destroy warts and corns.—The plant has the same effect upon milk as the *Pinguicula vulgaris*; and like that too is supposed to occasion the rot in Sheep. Is not the four coagulated milk of the Syrians, called *Leban*, or *Leven*, at first prepared with some plant of this kind? See *Ruffel's nat. hist. of Aleppo*.

The name, SUNDEW, seems to be derived from a very striking circumstance in the appearance of these plants; the leaves are fringed with hairs, supporting small drops or globules of a pellucid liquor like dew, which continue even in the hottest part of the day, and in the fullest exposure to the sun. Perhaps the acrimony of the plant resides in this secreted liquor.

DRO'SERA

long-leaved DRO'SERA *longifolia*. Stalks from the root. Leaves oval-oblong. LINN.—Shafts 6. HUDS

Dod. 474. 2, repr. in Ger. em. 1556. 2, and cop. in Fet. 63. 11.

—H. ox. xv. 4. row 1. 2.—Thal. 9. 2, cop. in J. B. iii. 761.

1.—Barr. 251. 2.—Lob. adv. 454. 2, ill cop. in Fark. 1052. 1.

a.—Ger. 1366. 2.

Grows with the former. Is it really a distinct species? LINN.—In this and the former, *shafts* 6, and valves of the capsule 3. HUDS.—*Leaves* upright, oblong, fleshy, smooth underneath, above beset with purple hairs tipped with glands; the younger ones rolled in. *Leaf-stalks* longer than the leaves, fringed at the base. *Stalk* upright, cylindrical, nodding at the end, with many flowers, before flowering rolled up. *Floral-leaves* very small, pointed, as long as the fruit-stalks. *Bloss.* white. LYONS.—On Brigsteer Moss, near Kendal, growing to twice and thrice the size they do about London. Ray's 3 additional species probably only varieties. CURT. bot. excurs.—Differs from the preceding only in the shape of the leaves. Bot. arr. ed. i. RELH.

Bogs with the former. LINN. HUDS. ST.—[In Norfolk, frequent. Mr. WOODWARD,] P. July. Aug.

Its properties are the same with those of the *rotundifolia*.

great DRO'SERA *anglica*. Leaves oblong. Stalks from the root. Shafts 8. HUDS.

H. ox. xv. 4. row 1, figure the last, cop. in Fet. 63. 12.—Park.

1052. 2, are the *Rorella longif. max.* of Ray, which Mr. Hudson refers to, though he does not to the above figures.

Has many things in common with the preceding species, but is larger, and the capsules have 4 valves. HUDS.

Boggy ground in the northern counties. Devonshire, Hants, and Norfolk. P. July. Aug.

Few persons can have observed the DRO'SERA in its native bogs, without seeing some of the leaves doubled up; but the cause of this, I believe, was first ascertained in this kingdom by the attention and ingenuity of my friend, Mr. WHATELY, now a surgeon in London. In the month of August, 1780, that gentleman, being upon a visit in Derbyshire, and gathering some specimens of the Drosera, examined some of these folded leaves, and finding a dead insect in each, was prompted to irritate the upper surface of other leaves, by touching them with a pin. The effect was as he expected, a sudden contraction of the leaf upon the pin. He communicated this curious fact to me; and though the experiment has since failed in my hands, I am satisfied he saw what he described. His friend, Mr. GARDOM, a Derbyshire botanist, who accom-

panied

panied him at the moment of this discovery, has since written me the following account:

“ In August, 1780, examining the *DROSERA* in company with Mr. WHATELY, on his inspecting some of the contracted leaves, we observed a small insect or fly very closely imprisoned therein, which occasioned some astonishment, to me at least, how it happened to get into that confined situation. Afterwards, on Mr. Whately's centrically pressing with a pin other leaves, yet in their natural and expanded form, we observed a remarkable sudden and elastic spring of the leaves, so as to become inverted upwards, and as it were encircling the pin, which evidently shewed the method by which the fly came into its embarrassing situation. This experiment was renewed repeatedly, and with the same effect, so that Mr. Whately and myself are both certain of the fact.”

Two or three years after Mr. Whately had sent me an account of his discovery, I was much pleased to find the following account of the *Drosera* in a German author, which, though it differs in some respects from the observations of Mr. Whately and Mr. Gardom, yet upon the whole it tends further to illustrate the singular properties of these curious plants:

“ July, 1779. *Dros. rotundifolia* and *D. longifolia*.—I remarked that many leaves were folded together from the point towards the base, and that all the hairs were bent like a bow, but there was no apparent change on the leaf-stalk. Upon opening these leaves I found in each a dead insect. Hence I imagined that this plant, which has some resemblance to the *Dionæa muscipula*, might also have a similar moving power.

“ With a pair of pliers I placed an ant upon the middle of a leaf of the *D. rotundifolia*, but so as not to disturb the plant. The ant endeavoured to escape, but was held fast by the clammy juice at the points of the hairs, which was drawn out by its feet into fine threads. In some minutes the short hairs on the disk of the leaf began to bend, then the long hairs, and laid themselves upon the insect. After a while the leaf began to bend, and in some hours the end of the leaf was so bent inwards as to touch the base. The ant died in 15 minutes, which was before all the hairs had bent themselves. On repeating this experiment, I found the effects to follow sooner or later, according to the state of the weather. At 11 in the morning, a small fly placed in the centre of a leaf, died sooner than the ant had done, the hairs bent themselves as before, and at 5 in the evening the leaf was bent together, and held the fly shut up. The same experiment being made on the *D. longifolia*, the same effects followed, but more rapidly. I observed, that in sultry weather, and hot sunshine, when the drops of juice
upon

upon the points of the hairs are largest, the experiment succeeds best. If the insect be a small one, sometimes only one edge of the leaf is folded up; hence it should seem necessary that the insect should stir all the hairs of the leaf.—Wroth. Beytrog, p. 64.

These accounts will I hope occasion numerous observations to be made upon this British Fly-trap, which so nearly approaches in its wonderful properties to the *Dionæa muscipula* or Venus Fly-trap, a native of the Bogs of Carolina. It is natural to enquire whether this destruction of insects be not necessary to the welfare of the plant? It is obvious that the experiments should be made upon well-grown vigorous plants in a fine day, as then the drops of adhesive liquor at the ends of the hairs are always the largest.

It may be useful to remark, that these plants are not to be found without a pretty close inspection of the Bogs they grow in, as they are much covered by, and entangled with Mosses.

425. SIBBAL'DIA. Silverweed.

EMPAL. *Cup* 1 leaf; with 10 shallow clefts; upright at the base; permanent. *Segments* alternately narrower; half spear-shaped; equal; expanding.

BLOSS. *Petals* 5; egg-shaped; standing on the cup.

CHIVES. *Threads* 5, hair-like; shorter than the petals; standing on the cup. *Tips* small; blunt.

POINT. *Seed-buds* 5; egg-shaped; very short. *Shafts* as long as the chives, and standing upon the sides of the seed-buds. *Summits* somewhat globular.

S. VESS. none. The *Cup* closes upon the feeds.

SEEDS 5; rather long.

ESS. CHAR. *Empal.* 10 clefts. *Petals* 5, inserted into the *empal.* *Shafts* from the side of the seed-buds. *Seeds* 5.

procumbent SIBBAL'DIA *procumbens*. Leaflets with 3 teeth.—
Fl. dan. 32.—*Penn. voy.* ii. 5. at p. 43.—*Fluk.* 212. 3.—*Pet.* 41.
7, as cultivated.

Root woody. *Stems* trailing, covered with the remains of the dead leaf-stalks. *Leaf-stalks* slender, slightly woolly, below oblong, membranaceous, brown, embracing the stems, slightly cloven, pointed. *Leaves* 3-fingered. *Leaflets* inversely egg-shaped, but somewhat lopped at the end, beset on each side with soft hairs; teeth somewhat pointed. *Bloss.* yellow, smaller than the *empal.* *Pointals* sometimes 10, and 5 in the same plant. In what respects it differs from the *Potentilla* may be seen by comparing

paring the descriptions of the 2 genera. Indeed it agrees with that and the rest of the natural order of *Senticosæ*; except in the number of chives and pointals. LINN.—The younger *Root Leaves* silky, the older bald. *Chives* and *Seeds* not more than 5. HALL.—*Leaf-stalks* long. *Leaflets* wedge-shaped, slightly cloven into 3 at the end. MR. WOODWARD.—*Leaf-stalks* longer than the leaflets. *Leaves* with fine silky hairs on both sides. *Chives* 7 or more in all the flowers examined of a cultivated specimen. *Threads* reddish. *Tips* yellow, *Seed-buds* 10. *Seeds* 10, fixed to a dry hairy receptacle. WITH.

Mountains of Scotland.

P. July. Aug.

Order VI.

POLYGYNIA; MANY POINTALS.

426. MYOSU'RUS. Moufetail.

EMPAL. *Cup* 5 leaves; half spear-shaped; blunt, reflected; coloured; deciduous; joined together above the base.

BLOSS. *Petals* 5, very small; shorter than the cup; tubular at the base; opening obliquely inwards.

CHIVES. *Threads* 5 or more, as long as the cup. *Tips* oblong; upright.

POINT. *Seed-buds* numerous; sitting upon the receptacle, forming an oblong cone. *Shafts* none. *Summits* simple.

S. VESS. none. *Receptacle* very long, shaped like a pillar; covered by the seeds which are laid one over another like tiles.

SEEDS numerous; oblong; tapering.

ESS. CHAR. *Empal.* 5 leaves, growing to each other at the base.

Honey-cups 5, awl-shaped, resembling petals. *Seeds* numerous. (In the generic description the *Honey-cups* are described as *Petals*. REICH.)

Obs. The number of *Chives* very variable. Closely allied to the *Ranunculus*.

little MYOSU'RUS *min'imus*.

Curt. iv. 43.—*Fl. dan.* 406.—*Mill. illustr.*—*Dod.* 112. 1, repr. in *Lob. obs.* 242. 1, *Ger. em.* 426. 4, and cop. in *Park.* 500, *J. B.* iii. 512. and *Pet.* 39. 7.—*Ger.* 345. 4, *chives* represented as proceeding from the whole length of the receptacle.—*Lonic.* ii. 18. 1.

Threads 4, 5, 6, *MOENCH.* 7. *POLLICH.* 10. *LYONS*; to 20. *GMEL.*—There is a variety with hairy leaves. *HUDS.*—*Stem* simple. *Root-leaves* narrow; strap-shaped. *Blossoms* greenish.

Cornfields, meadows and pastures, in a gravelly soil. [At Lathenham. *Mr. CROWE.*—Near Derby, *Mr. WHATELY.*—Malvern Chase, Worcesterfh. *Mr. BALLARD.*]

The whole plant is acrid.

Class VI.

H E X A N D R I A.

VI. C H I V E S.

TH E flowers of this class contain 6 chives, all of the *same length*, whereas in the 15th class, the chives, though 16 in number, are *unequal in length*, 4 of them being long, and 2 of them short.

The BULBOUS ROOTS in this class are some of them noxious, as those of the DAFFODIL, the HYACINTH, and the FRITILLARY; others are corrosive, as GARLICK, but by roasting or boiling they lose great part of their acrimony.

Order I.

MONOGYNIA; I. POINTAL.

* Flowers with a cup and a blossom.

481. FRANKE'NIA..... *Bloss.* 5 petals. *Cup* 1 leaf; beneath. *Capsule* 1 cell. *Seeds* many.
476. BER'BERIS. *Bloss.* 6 petals. *Cup* 6 leaves; beneath. *Berry*, 2 seeds.

† *Hottonia palustris*. *Anthericum calyculatum*. *Lythrum hyssopifolia*. *Peplis Portula*.

** Flowers with a sheath, or husk.

433. GALAN'THUS. *Bloss.* superior. *Petals* 6; the 3 inner ones shorter and notched at the end.

436. NARCIS'SUS. *Bloss.* superior. *Petals* 6. *Honey-cup* bell-shaped; on the outside of the chives.
442. AL'LIUM. *Bloss.* beneath. *Petals* 6; egg-shaped, fitting.

*** *Flowers naked.*

459. CONVALLA'RIA. *Blossom* beneath; with 6 clefts. *Berry*, 3 seeds.
461. HYACIN'THUS. *Bloss.* beneath; with 6 clefts; 3 honey-cup pores at the top of the seed-bud.* (*Segments of the blossom rolled back.* WITH.)
455. AN'THER'ICUM. *Bloss.* beneath; with 6 flat petals.
451. ORNITHOG'ALUM. *Bloss.* beneath; with 6 petals. *Threads* alternately broader at the base.
452. SCIL'LA. *Bloss.* beneath. *Petals* 6; deciduous. *Threads* cylindrical; of equal thickness.
457. ASPAR'AGUS. *Bloss.* beneath. *Petals* 6. *Berry*, 6 seeds.
444. FRITILLA'RIA. *Blossom* beneath. *Petals* 6; egg-shaped; with a *honey-cup* pore at the base.

† *Juncus.*

* I never could observe these pores in our species. WITH.

**** *Flowers imperfect.*

468. AC'ORUS. *Sheath* containing several flowers. *Capsule* 3 cells.
472. JUN'CUS. *Cup* 6 leaves. *Capsule* 1 cell.
482. PEP'LIS. *Cup* with 12 clefts. *Caps.* 2 cells.

Order II.

DIGYNIA; II. POINTALS.

† *Rumex digynus.* *Polygonum Persicaria.* *Polygonum hydropiper.* *Agrimonia* *Eupatoria.*

Order

*Order III.**TRIGYNIA; III. POINTALS.*

492. COL'CHICUM. *Empal.* a sheath. *Blofs.* with 6
divisions resembling petals.
488. TRIG'LOCHIN. *Cup* 3 leaves. *Blofs.* 3 petals.
Capsule opening at the base.
485. RU'MEX. *Cup* 3 leaves. *Blossom* 3 petals.
Seed 1, 3-cornered.

† *Anthericum calyculatum.* *Drosera rotundifolia.* *Drosera longifolia.*

*Order V.**POLYGYNIA; MANY POINTALS.*

495. ALIS'MA. *Cup* 3 leaves. *Blossom* 3 petals.
Seed-vessels many.

† *Triglochin maritimum.*

Order I.

MONOGYNIA; I. POINTAL.

433. GALAN'THUS. Snowdrop.

EMPAL. *Sheath* oblong, blunt, forked, compressed, shrivelling; opening at the flat side.

BLOSS. *Petals* 3, oblong, blunt, concave, loose, equal; standing open. *Honey-cup* cylindrical; nearly half as long as the petals; composed of 3 leaves resembling petals, parallel, blunt, nicked at the end.

CHIVES. *Threads* 6, hair-like, very short. *Tips* oblong, approaching, tapering, and ending in a bristle.

POINT. *Seed-bud* globular; beneath. *Shaft* thread-shaped; longer than the chives. *Summit* simple.

S. VESS. *Capful* nearly globular, with 3 blunt corners, 3 cells, and 3 valves.

SEEDS many; globular.

ESS. CHAR. *Petals* 3, concave. *Honey-cup* of 3 petals, small, nicked. *Summit* simple.

common

GALANT'HUS *nivalis*.—

Jacq. austr. iv. 313.—*Walc.*—*Clus.* i. 169. 1, repr. in *Dod.* 230. 1, *Lob. obs.* 64. 3, *Ger. em.* 147.—*Park. par.* 107, fig. between 6, 7, and 9.—*Ger.* 120. 1.—*Matth.* 1245.

Root bulbous. LINN.

Snowdrop. *Fair Maids of February.*

Meadows, sides of hedges. [At the foot of Malvern Hills, on the right of the road running below the Camp. Mr. BALLARD in *Bot. Arr.* ed. i.—Where no traces of any buildings or gardens are to be found. Finstall, near Bromsgrove. ST.—Near Cirencester, Gloucestershire. Mr. YERROW ARROWSMITH.]—And in orchards in Westmoreland, Cumberland, and Lancashire. HUDS.

P. March. April.

436. NARCIS'SUS. Daffodil.

EMPAL. *Sheath* oblong; blunt; compressed; opening upon the flat side; shrivelling.

BLOSS. *Petals* 6; egg-shaped; tapering; flat; fixed on the outside above the base of the tube of the honey-cup. *Honey-cup* 1 leaf; funnel-shaped; but rather cylindrical; border coloured.

CHIVES. *Threads* 6; awl-shaped; fixed to the tube of the honey-cup, but shorter than the honey-cup. *Tips* rather long.

POINT. *Seed-bud* beneath; roundish; with 3 blunt corners. *Shaft* thread-shaped; longer than the chives. *Summit* with 3 clefts; concave; blunt.

S. VESS. *Capsule* roundish; bluntly 3-cornered; with 3 cells, and 3 valves.

SEEDS numerous; globular; with little appendages.

ESS. CHAR. *Petals* 6; equal. *Honey-cup* funnel-shaped; of 1 leaf. *Chives* within the honey-cup.

NARCIS'SUS *poeticus*. *Sheath* with 1 flower. *pale* Honey-cup wheel-shaped, very short, skinny, finely scoloped.—

Park. par. 75. 1.—*Chuf.* i. 156, repr. in *Dod.* 223. 2, and *Ger. em.* 124. 7, and cop. in *Ger.* 110. 6, *J. B.* ii. 604. 1, and *Pet.* 67. 10.

Bloss. yellowish white. *Honey-cup* yellow. GER.—*Flowers* mostly 2, sometimes 1, and seldom more than 3 on a stalk, larger than any that bear many flowers upon a stalk, of a sweet, but stuffing scent. *Bloss.* pale whitish cream colour. *Honey-cup* pale yellow.

PARK. RAY. ST.—*Bloss. tube* 3-square, as long as the petals; petals roundish-oblong, terminating in a short tooth. *Honey-cup* bright yellow. Mr. Hudson appears to consider it as a variety of *N. poeticus*, which is, however, described by all authors as bearing only 1 flower on a stalk. I suspect it will prove a distinct species. ST.

Meadows and hedges but rather rare. HUDS.—Fields and sides of woods in the west of England. GER.—And at a distance from any house. RAY.—Near Hornsey Church.* SHERARD in R. syn. —[Near Hallifax. Mr. WOOD.] P. May.

* *Pet.* 67. 8, is a fig. of what he calls the *Hornsey Daffodil*. From the length of the honey-cup it should seem to be a species not uncommon in our gardens, but unnoticed by Linnaeus, and which I would call the

common NARCIS'SUS *Pseudo-Narcissus*. Sheath with 1 flower. Honey-cup bell-shaped, upright, curled, as long as the petals. Petals egg-shaped.—

Tourn. 185. *H.*—*Dod.* 227. 1, repr. in *Lob. obs.* 61. 1, *Ger. em.* 133. 2, and cop. in *Pet.* 67. 9.—*Swert.* i. 21. 3.—*J. B.* ii. 592. 2.—*Trag.* 757.—*Ger.* 115. 2.

Stalk 2-edged. Petals egg-spear-shaped, straw-coloured. Honey-cup throughout of a full yellow; the rim a little plaited and snipt. Dust kidney-shaped. WITH.

Woods, meadows, and sides of hedges. In woods near Erith, Kent. [Norfolk. Mr. WOODW.—And in orchards. Hanley Castle, Worcestershire. Mr. BALLARD.—Covers almost a whole field beyond Erdington, on the road from Birmingham. to Sutton. Madely, Shropsh. WITH. Near Derby. Mr. WHATELY.] P. Ap. [& Mar. W.]

The fresh roots are acrid.

442. AL'L I U M. Garlick.

EMPAL. Sheath common to several flowers; roundish; shrivelling.

BLOSS. Petals 6; oblong.

CHIVES. Threads 6; awl-shaped; generally as long as the blossom. Tips oblong; upright.

POINT. Seed-bud superior; short; somewhat 3-cornered; the corners marked by a line. Shaft simple. Summit sharp.

S. VESS. Capsule very short; broad; of 3 lobes, 3 cells, and 3 valves.

SEEDS many; roundish.

ESS. CHAR. Bloss. 6 divisions; expanding. Sheath of several flowers. Rundle crowded. Capsule superior.

OBS. In some species every other thread is broad, and the tip fixed in a fork at the end of the thread.

* Stem-leaves flat. Rundles bearing capsules.

round-headed

AL'L I U M *Ampeloprasum*. Stem with flat leaves. Rundle globular. Threads 3-pointed. Petals rough along the keel.—

Clus. i. 190, repr. in *Dod.* 690. 1, *Lob. obs.* 79. 1, *Ger. em.* 180. 2, and cop. in *Park.* 872. 3, and *J. B.* ii. 558.

Chives somewhat longer than the blossom. LINN.—Lateral root solid. Blossoms pale purple.

Isle of Holmes in the Severn-sea;

P. July.
This

This is eaten along with other pot-herbs. It communicates its flavour to the milk and butter of cows that eat it.

*** Stem-leaves flat. Rundles bearing bulbs.

AL'L I U M arenar'ium. Stem with flat leaves, and *sand* bulbs. Sheath of the leaves cylindrical. Sheath of the flower without any sharp point. Threads with 3 points.—

Fl. dan. 290.—*Clus.* i. 193, repr. in *Ger. em.* 187. 4, cop. in *Park.*

873. 5, and *J. B.* ii. 560.—[*Rupp. jen. ab.* *Hall.* 2. *Mr. Woodward.*]—(*H. ox.* iv. 14. 5, is *A. carinatum.*)

Bulbs and *blossoms* blue. *Chives* a little longer than the blossom. *Leaves* narrow, entire at the edge. *LINN.*—*Stem* 2 or 3 feet high. *Leaves* 3 or 4, sheathing the lower part of the stem, the lower ones quickly withering, broad, edges hairy, or rather finely toothed, but the teeth not discernible without a glass. *Leaf-sheaths* smooth, scored; scores of a deeper green. *Sheath* of 1 leaf, broad, short, blunt. *Bulbs* numerous, deep purple. *Flowers* a few, on short fruit-stalks, small, purple, marked with a deeper line. *Mr. Woodward.*

Mountains of Westmoreland. [Sir James Lowther's Woods, by Lowther, Westmoreland, and pastures adjacent. *Mr. Woodward.*] P. June. July.

AL'L I U M carina'tum. Stem with flat leaves, and *mountain* bulbs. Threads awl-shaped.—

Hall. de All. 2. 2, in opusc. at p. 392.—*Fuchsf.* 738, cop. in *Trag.*

748. 3, and *Lonic.* 195. 1, head expanding.—*Clus.* i. 193. 2.

—*Ger. em.* 187. 5.—*H. ox.* iv. 14. 5.—*Swert.* i. 60. 5, cop. in *Park. par.* 143. 3.

Sheath very long. *LINN.*

Meadows, pastures, and rocks.

P. June. July.

*** Stem-leaves nearly cylindrical. Rundle bearing bulbs.

AL'L I U M vinea'le. Stem with cylindrical leaves, *crow* and bulbs. *Chives* 3-pointed.—

Dod. 683. 1, repr. in *Ger. em.* 179. 1, and cop. in *Pet.* 66. 1,

and *Park.* 871. 1.—*Fuchsf.* 737, cop. in *Lonic.* 196. 1.—*Trag.*

748.—*Fuchsf.* 738, cop. in *Trag.* 748. 3, appear to me to be *A. carinatum* bursting into flower.—*Matth.* 558. 1 and 3, has flat leaves.

Bulbs tapering, bowed back, often running out into long hair-like points, compacted into a close head. *Bloss.* small, violet. *Threads* with 2 long bristles projecting beyond the flower. *LINN.*—*Stem* about 2 feet high, below covered with the sheaths of the leaves.

Leaves smooth, hollow, slender, very long. *Leaf-sheaths* smooth, scored. *Sheath* of 1 leaf, broad at the base, ending in an awl-shaped point, about an inch long, scored with green lines. *Bulbs* numerous, white. *Blossoms* few, small. Mr. WOODWARD.

Meadows and pastures. [Near Norwich. Mr. CROWE.—Huntingdonshire and Derbyshire. Mr. WOODWARD.] P. June.

The young shoots are eaten in sallads, or boiled as a pot-herb, β . With a double head of bulbs.

Lob. obs. 78. 2, *cop. in Park.* 871. f. 3, and *H. ox.* iv. 14. 4.

Near Worcester. ST.

wild AL'L IUM *oleraceum*. Stem with bulbs. Leaves rough, semi-cylindrical, furrowed on the under side. Chives simple.—

Hall. de All. 1. 2, *in opusc. p.* 386.—*Clus.* i. 194. 1, *cop. in Ger. em.* 188. 6, and *H. ox.* iv. 14. 2.—*J. B.* ii. 561. 1.

Root a solid bulb. *Stem* 2 or 3 feet high, upright, or only a little bent towards the top, smooth, not scored, solid. *Leaves* hollow. *Bulbs* egg-shaped, forming a roundish knob; from between these arise several thread-shaped fruit-stalks, each supporting a single flower, which is nodding; cylindrical, but somewhat bell-shaped. *Bloss.* whitish green, with 3 dark purple streaks on each petal. Very minute white dots, hardly visible to the naked eye, are scattered over the whole plant. LINN.—*Leaves* and *leaf-sheaths* deeply furrowed. *Bulbs* numerous. *Fruit-stalks*, some upright. *Bloss.* pale, with purple lines. *Threads* fixed to the petals. *Seed-bud* prism-shaped, of 6 angles. *Shaft* slender, longer than the blossom. Excepting that the *leaves* can hardly be called rough, corresponds very exactly with *A. oleraceum*. Mr. WOODWARD.

Meadows, pastures, and amongst corn. P. July.

The tender leaves are very commonly boiled in soups, or fried with other herbs.—Cows, Goats, Sheep, and Swine eat it.

*** Leaves from the root. Stalk naked.

Ramson AL'L IUM *ursinum*. Stalk naked, 3-square. Leaves spear-shaped, on leaf-stalks. Rundle flat-topped.—

Fl. dan. 757.—*Fuchs.* 739, *cop. in J. B.* ii. 566. 1, and *Trag.* 748.

2.—*Walc.*—*Math.* 560, *cop. in Dod.* 683. 2, which repr. in

Lob. obs. 80. 2, and *Ger. em.* 179. 2; and *cop. again in Ger.*

141. 2, and *Pet.* 66. 8.—*H. ox.* iv. 15. 15.

Stalk below, semi-cylindrical. RETZ.—*Root-leaves* egg-oblong, as long as the stalk. *Sheath* falling off. *Flowers* to 20. *Threads* inserted into the claws of the petals, shorter than the shaft. *Seeds* nearly egg-shaped, 1 in each cell. RELHAN.—*Bulbs* oblong. *Root-leaves*

leaves 2 to 4, on long leaf-stalks. Sheath oval, cloven. Petals spear-shaped, white. Mr. WOODWARD.—Leaves as long as the stalk. Threads fixed to the base of the petals, shorter than the shaft. W. Ramsons.—Woods and hedges. P. May.

An infusion in brandy is esteemed a good remedy for the gravel. Penn. tour. 1772. p. 175.—Other plants that grow near it will not flourish.

Cows eat it; but it communicates its flavour to the milk.

AL'LIUM *Schænop'rasum*. Stalk naked, as long as *chived* the leaves. Leaves cylindrical, awl-thread-shaped.—

Fuchf. 635.—Trag. 742. 2.—Lonic. i. 194. 2.—Dod. 689, repr. in Lob. obs. 77. 1, Ger. em. 177. 1.—Ger. 139. 1.—H. ox. iv. 14. row 1. 4.—Matth. 550, cop. in Dod. 689. 2, and which repr. in Lob. obs. 78. 1.

Meadows and pastures. By Fast-Castle, on the borders of Berwickshire, and in Westmoreland. P. June.

444. FRITILLA'RIA. Fritillary.

EMPAL. Cup none.

BLOSS. bell-shaped; expanding at the base. Petals 6; oblong; parallel. Honey-cup a hollow in the base of each petal.

CHIVES. Threads 6; awl-shaped; approaching the shaft. Tips 4-cornered; oblong; upright.

POINT. Seed-bud oblong; 3-sided; blunt. Shaft simple; longer than the chives. Summit with 3 clefts; expanding; blunt.

S. VESS. Capsule oblong; blunt; with 3 lobes, 3 cells, and 3 valves.

SEEDS many; flat; outwardly semi-circular; in 2 rows.

ESS. CHAR. Blossom of 6 petals; bell-shaped; with a cavity containing honey above the claws. Chives as long as the blossom.

FRITILLA'RIA *Melea'gris*. All the leaves alter- *chequered* nate. Stem with 1 flower.—

Curt. iii. 36.—Walc.—Jacq. austr. v. app. 32.—Park. par. 41. 2.—Clus. i. 153. 1, repr. in Ger. em. 149. 1, and cop. in Ger. 122. 1.—Clus. i. 152, repr. in Dod. 233. 2, and Ger. em. 149. 2; and cop. in Ger. 122. 2.—Swert. i. 7. 4.

Honey-cup

Honey-cup oblong. LINN.—*Flowers* generally 1, sometimes 2, and even 3. C. B. *pin.*—*Bloss.* bellying at the base. CURT. ST.—*Root* bulbous, solid, small for the size of the plant, throwing out numerous fibres beneath, and increasing by off-sets. *Stem* from the side of the root, 12 to 18 inch. high, cylindrical, smooth, bending at the top into an elegant arch. *Leaves* 3 to 5, short, grass-like, half embracing the stem, alternate, distinct. *Flower* drooping. *Petals* oval, the 3 outer bulging at the base, the 3 inner flat, of a dull red, chequered with a deeper colour, without any mixture of green or yellow. *Summit* deeply cloven. *Capsule*, angles blunt. MR. WOODW.—*Stem* cylindrical, crooked. *Leaves* 4 to 6, spear-shaped. *Honey-cup* a fleshy glandular substance connecting the chives to the petals. *Tips* nearly as long as the threads, of 2 cells. *Seed-bud*, corners blunt. WITH.—*Fruit-stalks* slender. *Bloss.* nodding, chequered with purple, and greenish yellow. *Stalk* grows considerably longer after the flowering.

Fritillary. Chequered Daffodil, or Tulip. Snakeshead. Guinea-henflower.

Meadows and pastures. Mawde Fields, near Rissip Common, Middlesex; near Bury, Enfield; and in the meadows between Mortlake and Kew. [Between Laxfield and Stirrup-strect, Suff. MR. WOODWARD.—In a meadow near Blymhill, Staffordshire, plentifully. MR. DICKENSON.—Near Leicester. DR. ARNOLD.]

P. April. May.

451. ORNITHOG'ALUM. Bethlemstar.

EMPAL. *Cup* none.

BLOSS. *Petals* 6; spear-shaped; upright below the middle, but expanding and flat above; permanent; but fading.

CHIVES. *Threads* 6; upright; broadest at the base; shorter than the blossom. *Tips* simple.

POINT. *Seed-bud* angular. *Shaft* awl-shaped; permanent. *Summit* blunt.

S. VESS. *Capsule* roundish; angular; with 3 cells, and 3 valves.

SEEDS many; roundish.

ESS. CHAR. *Blossom* of 6 petals; upright; permanent; from about the mid-way expanding. Every other thread broader at the base.

Obs. The threads in some species are upright and flat; every other thread having 3 points, and the tip fixed upon the middle point. In other species these alternate threads are undivided.

* All

* *All the threads awl-shaped.*

ORNITHOG'ALUM *lu'teum*. Stalk angular, with yellow 2 leaves. Fruit-stalks in rundles, undivided. LINN.—Rather stem. ST.

Walc.—Clus. i. 188. 2, repr. in Dod. 222, Lob. obs. 72. 3, Ger. em. 165. 2, and cop. in Pet. 66. 12.—Fl. dan. 378.*—Fuchs. 169, cop. in J. B. ii. 622. 1.—Ger. 132. 2.—Lonic. 193. 1.—H. ex. iv. 13. 12.—Swert. i. 57. 3.—Park. par. 137. 7.—(Trag. 737. 2, seems rather *O. minus*.)

Root-leaf generally single, longer than the stem. Stem-leaves sometimes 3 or 4, unequal. 1 much larger. Fruit-stalk sometimes solitary. Petals in 2 series, the inner greenish yellow, the outer green. Mr. WOODWARD.

Meadows and pastures. Woods on the banks of the Tees near Greta Bridge, and Bignal, Yorkshire. R. syn. [and Rev. Mr. ZOUCH.]—Near Doncaster and Kendal. [Under Malham Cove: Mr. WOOD.—In a meadow adjoining to the Copper Mills, Derby. Mr. WHATELY.] P. April.

The bulbous roots of all the species are nutritious and wholesome, and those of this species have been employed for food in a scarcity of provisions.—Horses, Goats, and Sheep eat it. Swine are not fond of it. Cows refuse it.

ORNITHOG'ALUM *pyrena'icum*. Bunch very *spiked* long. Threads spear-shaped. Fruit-stalks when in flower expanding, equal, but afterwards approaching the stalk.—

Clus. i. 187. 1, repr. in Dod. 209. 1, Lob. obs. 47. 3, Ger. em. 97, and cop. in Ger. 89, and J. B. ii. 627. 1.—Park. par. 137. 5.

Nearly 3 feet high. Flower-scales solitary, not embracing the stem, as long as the pedicles. Every other chive shorter. GOUAN.—Stalk $1\frac{1}{2}$ or 2 feet high. Fruit-stalks slender. Flower-scales membranaceous at the base, broad, and half embracing the stalk, upwards awl-shaped. Petals narrow, expanding, pale yellow within, green without, with whitish margins. Mr. WOODWARD.

Meadows and pastures. Near Ashley, between Bath and Bradford; and near Chichester. P. June.

** *Threads alternately notched at the end.*

ORNITHOG'ALUM *umbella'tum*. Flowers in broad topped spikes. Fruit-stalks rising above the top of the stalk. Threads widening at the base. LINN.—None of the threads cloven. WITH. SCOP. ST.

* Much larger than any specimens I have ever seen. Mr. WOODW. ST.

Jacq. austr. iv. 343.—*Ger.* 132. 1.—*Dod.* 221. 1, repr. in *Lob. obs.* 72. 2, *Ger. em.* 165. 1, and cop. in *Swert.* i. 57. 4.—(*Mauh.* 542, if the plant, the leaves and stalk misfigured.)

Root-leaves about 9. The lowest fruit-stalks rising higher than the rest. A flower-scale at the base of each fruit-stalk. *Scop.* *With.*—Fruit-stalks very long, broad. Flower-scales very large, white, membranaceous. *Mr. Woodward*—Petals white, with a broad green streak along the under side. Threads spear-shaped, flat, fleshy; every other broader. Seed-bud with 6 blunt angles. Shaft cylindrical, with 3 blunt angles. *With.*

Woods, meadows, and pastures in Norfolk. P. Apr. May.

452. SCIL'LA. Squill.

Empal. Cup none.

Bloss. Petals 6; egg-shaped; greatly expanding; deciduous,

Chives. Threads 6; awl-shaped; half as long as the petals. Tips oblong; fixed side-ways.

Point. Seed-bud roundish. Shaft simple, as long as the chives; falling off. Summit simple.

S. Vess. Capsule nearly egg-shaped; smooth; with 3 furrows, 3 cells, and 3 valves.

Seeds several; roundish.

Ess. Char. Blossoms of 6 petals; falling off. Threads thread-shaped.

vernal SCIL'LA *ver'na*. Broad topped spike hemispherical, with floral-leaves, and but few flowers. Leaves awl-strap-shaped, channelled. *Huds.*—Flower-scales nearly as long as the flowers.* *St.*—Flowers 3 to 8, and in gardens 6 to 16. See *Hudson's* description.

Fl. dan. 568.†—*Clus.* i. 188. 1, repr. in *Ger. em.* 166. 4.—*Park.* par. 137. 6.

Root bulbous, coated, brown, the size of a hazle-nut. Stalk 2 to 6 inches high, upright, cylindrical, leafless, even, smooth. Leaves

* Add to the character of *S. bifolia*, Flower-scales very minute. Leaves blunt. *HALL. ST.*—And to the description, Leaves very broad. *HALL. ST.*

† Corresponds exactly with the Cornish specimens, is referred in the *Syst. veg.* to *S. bifolia*, but this it cannot be from its flower-scales being nearly as long as the flowers, in which as well as other respects it corresponds with the character of *S. verna*, though not referred to by *Mr. Hudson. ST.*

Leaves several, pointed, nearly as long as the stalk. *Blossoms* pale blue. *Floral-leaves* permanent, membranaceous, hollow, pointed. HUDS.

Meadows and pastures. Cliffs on the sea shore in Anglesea and Wales; about St. Ives, and other places in Cornwall. I have received specimens of it under the title of *S. bifolia*, but that species is not a native of these islands. HUDS.—Gloddaeth, Caernarvonshire. [Near Redruth, Cornwall. Mrs. WATT.]

P. April. May.

SCIL'LA *autumnalis*. Leaves thread-shaped. Flowers *autumnal* in broad-topped spikes. Fruit-stalks naked, ascending, as long as the flowers.—

Chif. i. 185. 2, repr. in *Doct.* 219. 1, *Lob. obs.* 53. 3, *Ger. em.* 110. 1, and cop. in *Ger.* 98. 4.

Bloss. about the size of a pea. LINN.—Root bulbous, coated. Leaves numerous, much shorter than the stalks. Mr. WOODW.—*Blossoms* blue.

Dry pastures. St. Vincent's Rock, near Bristol; Lizard Point, Cornwall; Black Heath; near Ditton, on Moulsey Hurst, over against Hampton Court. [Common, near Chace Water Mine, Cornwall. Mr. WATT.]

P. Aug. Sept.

455. ANTHER'ICUM. Spiderwort.

EMPAL. *Cup* none.

BLOSS. *Petals* 6; oblong; blunt; greatly expanded.

CHIVES. *Threads* 6; awl-shaped; upright. *Tips* small; with 4 furrows; fixed side-ways to the threads.

POINT. *Seed-bud* with 3 corners, but slightly marked. *Shaft* simple; as long as the chives. *Summit* blunt; 3-cornered.

S. VESS. *Capsule* egg-shaped; smooth; with 3 furrows, 3 cells, and 3 valves.

SEEDS numerous; angular.

ESS. CHAR. *Bloss.* of 6 petals; open. *Capsule* egg-shaped.

* Spiderworts. Leaves channelled. Threads for the most part smooth.

ANTHER'ICUM *serotinum*. Leaves flattish. Stalk *Saffron* with 1 flower.—

Jacq. austr. v. 38.—*Ray* 17. 1. at p. 474.—*J. B.* ii. 663. 1.

Root

Root oblong, covered with scales the remains of dead leaves. Stalk with 3 or 4 floral-leaves or leaves, spear-shaped, alternate, very minute, sheathing. No flower-sheath. Flower beneath. Petals with tawny lines, and yellow claws. Threads not woolly. LINN.

Mountain Saffron.

On high mountains, as on Snowdon, and on the mountains in the neighbourhood of Llanberrys on the west side of Trigvyllchau. RAY.—Rocks on Crib y Distil. HUDS. P. April. May.

** Nartheciums. Leaves sword-shaped.

Lancashire ANTHER'ICUM *offifragum*. Leaves sword-shaped. Threads woolly.—

Narthecium offifragum. HUDS. which see.

Scottish ANTHER'ICUM *calyculatum*. Leaves sword-shaped. Cups with 3 lobes. Threads smooth. Shafts 3.—
Tofieldia palustris. HUDS. which see.

Remarkable as a Liliaceous plant in having a cup. In external appearance it accords so exactly with the *A. offifragum*, that so far from removing it from that natural order, we are obliged to place them in the same genus, notwithstanding its 3-cornered empalement, the absence of a shaft, 3 seed-buds, and its naked threads. LINN.

NARTHE'CIUM. (*Moehr. and Hudf.*) Kingspear.

EMPAL. none.

BLOSS. Petals 6; equal; spear-shaped; pointed; nearly upright; permanent; (stiff; widely expanding; after blossoming upright; bluntish at the point. ST.)

CHIVES. Threads 6; awl-shaped; woolly. Tips small; fixed side-ways.

POINT. Seed-bud 3-square. Shaft none. Summit blunt; (oblong. ST.)

S. VESS. Capsule egg-shaped; pointed; 3-square; 3 cells, 3 valves.

SEEDS numerous; chaff-like; (cylindrical, tapering to a point each way. ST.) HUDS.

ESS. CHAR. Blofs. 6 petals; expanding; permanent. Shaft o. Capsule egg-shaped Seeds with tail-like appendages at each end. ST.

Obs. Moehringius and Mr. Hudson appear to me to have done well in making this a distinct genus. Linnæus urges indeed that

“ it

“ it is connected to several of the Anthericums in its hairy threads,” but acknowledges at the same time that it “ differs from them in having a pyramidal seed-bud, chaff-like seeds, and a permanent blossom,” circumstances surely sufficient to constitute a distinct genus. Add to which that its habit is totally distinct. ST.

NARTHE'C IUM *offis'ragum*. HUDS. ST.

Lancashire

Fl. dan. 42.—*Clus.* i. 198. 1, repr. in *Dod.* 208. 2, *Lob. obs.* 47.

1, *Ger. em.* 95. 2, and cop. in *J. B.* ii. 633. 2, *H. ox.* iv. 1.

7, and *Pet.* 66. 9.—(*Gmel.* i. 18. 2, is *Anthericum calyculatum*.

ib. 1. in *Huds.* an error of the press for 2. Mr. Woodward. St.)

Threads bearded. LINN.—*Leaves* sometimes short, and sword-shaped, sometimes long, and grass-like, scored, with prominent ribs. *Petals* yellow within, green without, with yellow edges. Mr. WOODWARD.—*Stem* cylindrical, 4 to 6 inches high. *Root-leaves* strap-spear-shaped, flat, scored. *Stem-leaves* lying close to the stem. *Flower-scales*, 2 to each fruit-stalk, spear-shaped, alternate, concave. *Petals* strap-spear-shaped, a little concave, greatly expanding, greenish on the outside, of a full yellow within. *Threads* yellow. *Tips* scarlet. WITH. ST.—*Stem* ascending, 4 inch. to a foot high. *Leaves* all bowed one way in the same direction as the stem. *Stem-leaves* sometimes like the root-leaves, and above 2 inches long, but generally resembling sheath-like floral-leaves. *Flowers* in a terminating bunch, upright. *Flower-scales* awl-shaped, the lower at the base of the fruit-stalk, and nearly as long, the upper thrice as small. *Petals*, the 3 outer awl-shaped, the inner oblong-strap-shaped. *Threads* saffron-coloured, covered with thick white wool; the wool hair-like, knotted like a chain. *Summit* slightly nicked. *Capsule* spear-egg-shaped. *Seeds* oblong, tapering each way into bristle-shaped tails nearly twice as long as the seed; disposed lengthways and nearly as long as the seed-vessel. ST.

Asphodelus Lancastriæ. *Ger. em.* 96. n. 2.—Lancashire, or Bastard *Asphodel*.

Turf bogs. [Derfingham Moor, Norfolk. Mr. CROWE.—Bogs in the north very common. Mr. WOODWARD.—Birmingham Heath. WITH. ST.] P. July. Aug.

It is believed in Sweden to be noxious to sheep, and has been supposed to soften the bones of animals that eat it, but this opinion wants confirmation.

Cows and Horses eat it. Sheep and Swine refuse it.

457. ASPAR'AGUS. Asparagus.

EMPAL. *Cup* none.

BLOSS. *Petals* 6; oblong; permanent; connected by the claws into an upright tube. The 3 inner petals alternate; reflected at the top.

CHIVES. *Threads* 6; thread-shaped; standing on the petals; upright; shorter than the blossom. *Tips* roundish.

POINT. *Seed-bud* turban-shaped; with 3 corners. *Shaft* very short. *Summit* a prominent point.

S. VESS. *Berry* globular; with 3 cells and a dot at the end.

SEEDS 2; smooth; roundish; but angular on the inside.

ESS. CHAR. *Bloss.* with 6 divisions; upright. The 3 inner petals bent back at the point. *Berry* 3 cells, and 2 seeds.

OBS. It is not easy to say whether the blossom is composed of 1 or 6 petals. Flowers pendant, though the pointal very short.

common ASPAR'AGUS *officina'lis*. Stem herbaceous, cylindrical, upright. Leaves bristle-shaped. Leaf-scales in pairs. LINN.—Solitary. ST.

Ludw. 78.—Fl. dan. 505.—Mill. 55.—Sheldr. 83, fertile plant.—Math. 477.—Fuchf. 58, cop. in Trag. 222, and J. B. iii. 726. 1.—Ger. 949.* 1.—Blackw. 332.—Clusf. ii. 179, repr. in Dod. 703. 1, Lob. obs. 458, and Ger. em. 1110. 1, and cop. in Park. 454. 3.—par. 501. 6.—Lonic. 141. 2.

Stems herbaceous, upright, paniced. Leaf-scales, the outer solitary, with 2 smaller ones within, from between which rise 3, and sometimes 4 and 5 strap-shaped leaves. This is the case in the upper part of the branches where there are no flowers, but in the lower part of the branches a small branch rises in their stead. Fruit-stalks in pairs, limber, bearing 1 flower, pendant, with a jointed knot. Bloss. bell-shaped; inner petals longer. In the cultivated varieties the chives and pointals are not on different plants. LINN. The wild varieties have chives and pointals on different plants. GOUAN.—The cultivated as well as wild varieties have chives and pointals on different plants. LEERS.—Stem upright, or lying flat. Flowers, some with only chives, others with only pointals, and others again with chives and pointals. Berries with sometimes only 1 seed. HUDS.—Branches alternate, with props, not leaves, at the base. Props solitary, membranaceous, brownish; those at the base of the branches triangular-egg-shaped, tapering out into a point; the
base

base also running down into a pointed prominence; those at the base of the leaves heart-egg-shaped, pointed, ragged at the edge, and often cracking at the sides, its base inclosing the whole bundle of leaves; the 2 inner ones described by Linnæus not to be found. *Dust* and *seed* produced on different plants. *Flowers of the plants producing dust* nearly as large again. *Chives* nearly as long as the petals. *Threads* adhering to the petals for half their length. *Tips* oblong, upright, orange. *Dust* orange. *Seed-bud* half as long as the threads, and as large as the other at the same stage of growth. *Shaft* none. *Flowers of the plants producing seeds* not so conspicuous, and of a greener and browner hue. *Chives* not half so long as the petals. *Tips* whitish, membranaceous, barren. *Dust* none. *Seeds* generally 2, but sometimes 3. *Fruetification* examined in cultivated plants, the rest from the wild and cultivated. *St.*—*Bloss.* yellowish green. *Berries* red.

Asparagus. Sparagus, corruptly *Sparrowgrafs. Sperage.*

Meadows and rocks on the sea coast. Lizard Point, Gravesend, and in the marshes below Look's Folly, two miles from Bristol; about Harwich and Greenwich. *RAY.*—Isle of Portland. *HUBS.*—[In the Salt Marshes below King's Weston, near Bristol, with *Dr. BROUGHTON. ST.*]

P. July.

The young shoots of this plant, in its cultivated state, are very universally esteemed for their flavour and nutritious qualities.—They impart to the urine the scent of water in which they have been boiled.—The *Sparagus Chrysomela* lives upon it.

459. CONVALLA'RIA. Solomons-feal.

EMPAL. Cup none.

BLOSS. 1 petal; bell-shaped; glossy. *Border* with 6 clefts; segments blunt; expanding and reflected.

CHIVES. Threads 6; awl-shaped; standing on the petal; shorter than the blossom. *Tips* oblong; upright.

POINT. Seed-bud globular. *Shaft* thread-shaped; longer than the chives. *Summit* blunt; 3-cornered.

S. VESS. Berry globular; with 3 cells; spotted before it is ripe.

SEEDS solitary; roundish.

ESS. CHAR. Blossoms with 6 clefts. *Berry* spotted; with 3 cells.

* Lily of the Valley. *Blossoms* bell-shaped.

CONVALLA'RIA *maja'lis.* *Stalk* naked.—

Lily

Curt. v. 51, flowers the best.—*Ludw. 87, leaves the best.*—*Blackw. 70.*—*Math. 875.*—*Sheldr. 25.*—*Fl. dan. 854.*—*Ger. 331. 2, cop. in Pet. 44. 7.*—*Park. 251. 1, cop. in H. ox. xiii. 4. 1.*—*Ger. em. 410. 2.*—*Dod. 205. 1, repr. in Lob. obs. 87. 1, Ger. em. 410. 1.*—*Walc.*—*Ger. 331. 1.*—*Fuchf. 241, cop. in J. B. iii. 531. 3, and Trag. 572.*—*Lonic. i. 183. 2.*

Blossoms white, highly fragrant. *LINN.*—*Plant* smooth. *Root-scales* sheathing, oblong, blunt, scored, flesh-coloured. *Leaves* 2, spear-shaped, pointed, very entire, as long as the stalk. *Leaf-stalks* embracing the stem. *Stalk* 2-edged, 9 inches high, with many flowers. *Fruit-stalks* thread-like, short, with 1 flower. *Flower-scales* spear-shaped, membranaceous, white, at the base of the fruit-stalks, as short again as the fruit-stalks. *Flowers* white, sweet scented. *LYONS.*—*Leaves* elliptical, generally 2. *Flowers* few, growing from one side. *Fruit-stalks* arched. *Flower-scales*, one at the base of each fruit-stalk, spear-shaped, membranaceous. *Blossoms* contracted at the mouth; segments reflected at the edge. *Berries* red. *Mr. WOODWARD.*

Lily of the Valley. May Lily.

Woods and heaths. Near Hampstead. [Woods in Norfolk. *Mr. GROWE.*]

The flowers highly fragrant, but when dried of a narcotic scent. Reduced to powder they excite sneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterness, as well as of the purgative properties of aloes. The dose from 20 to 30 grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime.

Sheep and Goats eat it. Horses, Cows, and Swine refuse it.

** Solomons-seal. *Blossoms* funnel-shaped.

sweet CONVALLARIA'RIA' *Polygona'tum.* *Leaves* alternate, embracing the stem. *Stem* 2-edged. *Fruit-stalks* from the bosom of the leaves, seldom supporting more than 1 flower.—

Ludw. 47.—*Fl. dan. 337.*—*Clus. i. 276. 1, repr. in Dod. 346. 1, Ger. em. 904. 3, and cop. in J. B. iii. 529. 2, Park. 696. 3, fig. 1st, H. ox. xiii. 1. 4, Pet. 44. 6, and Barr. 711. 1.*—*Blackw. 251. 2.*—*Ger. 756. 1.*

Stem from a span to near a foot high, of a harder texture than the *multiflora*. *Flowers* large, sweet scented. *LINN.*—*Berries* black. *PET. Mr. WOODWARD.*—*Stem* angular, twisted. *Leaves* oval-spear-shaped, half embracing the stem. *Flowers*, sometime 2, on long fruit-stalks, hanging down on the side opposite to the direction of the leaf, much larger than those of the other two species, white,

white, with a green line running down each segment; segments rather bent in. Mr. Woodw.—Stems sometimes 3-edged. Bloss. greenish white. WITH.

Sweet Smelling Solomons-seal.

Fissures of rocks near Wherf, Settle, and Skipton, Yorkshire. [Rocky part of Syke's Wood, near Ingleton, Yorkshire. CURT.]

P. May. June.

In a scarcity of provisions the roots have been made into bread. Sheep and Goats eat it. Horses, Cows, and Swine refuse it. β. HUDS. Solomons-seal with white Hellebore leaves and a purplish stalk. RAY.

Woods on the north of Mendip Hills. *ib.*

CONVALLARIA *multiflora*. Leaves alternate, embracing the stem. Stem cylindrical. Fruit-stalks from the bosom of the leaves, supporting several flowers.—common

Mill. 101. 1.—Walc.—Fl. dan. 152.—Fuchs. 585, cop. in J. B.

iii. 529. 1.—Lonic. i. 170. 3.—Clus. i. 275. 2, repr. in Dod.

345. 1, Lob. obs. 368. 2, Ger. em. 903. 1, and cop. in Park.

696. 3, H. ex. xiii. 1. row 3. 1, and Pet. 44. 5.—Blackw.

251. I. 1, 5, 7.—Trag. 399.—Matth. 954, cop. in Ger. 756. 3.

Berries red. PETIV. and TREW in BLACKW.—black. J. B. POL-
LICH. Mr. WOODWARD.—Stem above somewhat twisted and an-
gular from the edges of the leaves running down, below cylindri-
cal, or nearly so. Lower-leaves oval; upper oval-spear-shaped, half
embracing the stem. Fruit-stalks branched, usually with 2 flowers
above, 3 lower down, frequently 4 at bottom, and in gardens
more. Flowers smaller, and segments more pointed than in *C.*
Polygonatum, white tipped with green. Mr. WOODWARD.—Fruit-
stalks with from 3 to 7 flowers. ST.

Woods. Bramdean, Hampshire; Rochill, Kent; about High
Wickham, Bucks; Copse at Gorleston, Suffolk. Mr. WIGG.

P. May. June.

Solomons-seal.

The young shoots are eaten by the Turks as *Asparagus*, and the
roots have been made into bread as the *C. Polygonatum*. LINN.

Cows, Goats, and Sheep eat it.

β. Dwarf English Solomons-seal. RAY.

Woods in Wiltshire. *ib.*

461. HYACIN'THUS. Hyacinth.

EMPAL. Cup none.

BLOSS. 1 petal; bell-shaped. Border with 6 clefts; reflected. Honey-cups; 3 pores filled with honey at the point of the seed-bud.

CHIVES. Threads 6; awl-shaped; rather short. Tips approaching.

POINT. Seed-bud roundish; but with 3 edges, and 3 furrows. Shaft simple, shorter than the blossom. Summit blunt.

S. VESS. Capsule nearly cylindrical, with 3 corners, 3 cells, and 3 valves.

SEEDS 2 for the most part, roundish.

ESS. CHAR. Blossoms bell-shaped, 3 honey-cup pores on the seed-bud.

Harebell HYACIN'THUS *non-scrip'tus*. Blossoms bell-shaped, with 6 divisions, the ends rolled back. LINN.—Blossoms cylindrical-bell-shaped. Floral-leaves in pairs. HUDS.

Curt. ii. 24.—Clus. i. 177. 1, repr. in Dod. 216. 1, Lob. obs. 53. 2, Ger. em. 111. 1, and cop. in Ger. 99. 1, and J. B. ii. 586.

—Walc.—Park. par. 125. 5.—Swert. 13. 1, 2, 3, and 4.—(Blackw. 61, and H. ox. iv. 11. 8, not the plant.)

Floral leaves generally longer than the blossoms. Summit moist with a drop of liquor. Blossoms blue. LINN.—The honey-cup pores not to be found. WITH. RELH.—Flowers drooping, which distinguishes it from the *Scilla campanulata* BANKSII; a plant often found in our gardens, and blossoming at the same time. CURT. ST.—Leaves flaccid, grass-green, bending downwards. Those of *S. campanulata* are upright, stiff, sea-green, scored, resembling those of the Narcissus. Flowers have a peculiar scent, those of *S. camp.* different. Threads adhering longitudinally to the segments of the blossom, every other adhering almost to the tips. It appears to me to have more of the habit and even structure of *Scilla* than of *Hyacinthus*. ST.

Harebell. English Hyacinth.

Woods and hedges.

P. May.

The fresh roots are poisonous. They may be converted into starch.—*Ihalena Plantaginis* lives upon it.

white 2. Blossoms clear white. RAY. ST.

Scadbury Park, Kent. RAY.—Near Worcester. ST.

flesh-coloured 3. Blossoms flesh-coloured. RAY. WITH. ST.

463. AC'ORUS.

468. AC'ORUS Myrtlegrafs.

EMPAL. *Spike-stalk* cylindrical; undivided; covered by the florets. *Sheath* none. *Cup* none.

BLOSS. *Petals* 6; blunt; concave; flexible; thicker upwards, and generally lopped.

CHIVES. *Threads* 6; rather thick; something longer than the petals. *Tips* thick; terminating; double; connected.

POINT. *Sced-bud* bellying; oblong; as long as the chives. *Shaft* none. *Summit* a prominent point.

S. VESS. *Capsule* short; triangular; tapering each way; blunt. *Cells* 3.

SEEDS several; oblong-egg-shaped.

ESS. CHAR. *Spike-stalk* cylindrical; covered with florets. *Blossom* of 6 petals; naked. *Shaft* none. *Caps.* 3 cells.

AC'ORUS Cal'amus.—

sweet

Ludw. 34.—Leers 13. 12, *fructification and spike*.—Blackw. 466.

—Clus. i. 231. 2, repr. in Dod. 249. 3, Ger. em. 62. 1, and cop. in Park. 149, and J. B. ii. 734.—H. ox. viii. 13. 4.—C. B. th. 626.—Dod. 249. 2, repr. in Lob. obs. 30. 1, and Ger. em. 62. 2.—Clus. i. 231. 1, repr. in Lob. obs. 30. 2, two last not in flower.

Root horizontal. *Leaves* sword-shaped. *Spike* lateral, oblong.

LYONS.—*Leaves*, one edge waved, the other even. Mr. Woodward.—*Root* $\frac{1}{2}$ to 1 inch diameter, often $1\frac{1}{2}$ foot long or more, sending out a number of long coarse fibres. The old one decays every year, but 2 young ones shoot out from the crown of it. *Leaves* sword-shaped, sheathing one another, some plaited in a serpentine line. *Spike* proceeding from the edge of the leaf. *Petals* skinny, thin, crowned with a kind of horizontal hat. *Stem* flatted, bordered with a leafy edge, and above the insertion of the spike expanding into a leaf. *Threads* flat, oblong. WITH.—*Petals* oblong, slightly keeled, of a thicker gristly substance at the end, which is bent obliquely inwards, flat, and generally 3-sided. *Threads* strap-shaped. *Tips* yellow, narrower than the threads. ST.

Myrtle Flag. Sweet Smelling Flag, or Calamus.

Banks of rivers with a muddy bottom. R. Yare, near Norwich. Hedly in Surry, in Cheshire, near Cambridge, Hounslow Heath, near Harefield. [R. Waveney, near Bungay, Suffolk. Mr. Woodward.—R. Avon, near Pershore. Mr. Ballard.—R. at

Tamworth, at the bottom of Mr. Oldershaw's garden. WITH.]
P. May. June.

The root powdered might supply the place of our foreign spices. It is our only native true aromatic plant. LINN. The powder of the root has cured agues when the Peruvian Bark has failed. The roots have a strong aromatic smell, and a warm, pungent, bitterish taste. The flavour is greatly improved by drying. They are commonly imported from the Levant, but those of our own growth are full as good. The Turks candy the roots, and think they are a preservative against contagion.

Neither Horses, Cows, Goats, Sheep, or Swine will eat it.

471. JUN'CUS. Rush.

EMPAL. *Husk* 2 valves. *Cup* 6 leaves; oblong; tapering; permanent.

BLOSS. none; unless you call the leaves of the coloured cup petals.

CHIVES. *Threads* 6; hairlike; very short. *Tips* oblong; upright; as long as the cup.

POINT. *Seed-bud* 3-cornered, tapering. *Shaft* short; thread-shaped. *Summits* 3; long; thread-shaped; woolly; bent inwards.

S. VESS. *Capsule* covered; 3-cornered; with 1 cell, and 3 valves.

SEEDS several; roundish.

ESS. CHAR. *Empal.* 6 leaves. *Bloss.* o. *Capsule* 1 cell.

OBS. Empalement brown, or approaching to black, where it is not expressed to be otherwise. WITH.—Horses eat the tops when young, but leave them when full grown. SR.

* *Straws* naked.

sea JUN'CUS *acutius*. Straw nearly bare, cylindrical, sharp-pointed. Panicle terminating. Fence of 2 leaves, thorny.

BARR. 203. 2.—C. B. pr. 21. 2, repr. in th. 173, and cop. in Park. 1193. 4.—H. ox. viii. 10. 15.—(J. B. ii. 520. 3, is, I suspect, a different plant.)

Panicle crowded, close, from 2 to 3 inches long. Fence, the sheath of the outer leaf from $1\frac{1}{2}$ to 2 inches long, terminating in a stiff, pungent leaf, 1 or $1\frac{1}{2}$ inch long; that of the inner leaf about 1 in. long, terminating in a sharp point about $\frac{1}{2}$ in. long. SCHEUCH, Pricking large Sea-rush.

Sand Hills on the sea coast of Merionethshire. RAY.

β. Panicle

β. Panicle long, not spreading, from 3 to 6 inches long, consisting of 2 principal branches, one of which is from 3 to upwards of 6 inches long, the other very short, immediately dividing into lesser branches. *Fence*, the sheath of the *outer leaf* about 1 inch long, terminating in a very sharp-pointed pungent leaf, from 3 to upwards of 6 inches long; that of the *inner* about $\frac{1}{2}$ inch long, ending in a finely tapering leaf from $\frac{1}{2}$ to 1 inch long. SHEUCH. ST.—*Fence*, leaves extremely rigid and sharp. Grows in tusfs near 6 feet high. I am doubtful whether it be not a variety of *J. inflex.* Mr. WOODWARD.

Park. 1193. 7, well done. (*Mr. Woodward. St.*)—*H. ox.* viii.

10. 14.

Sea Hard Rush.

Salt marshes, about Maldon, Essex, and west coast of Wales. [*Coast of Norfolk. Mr. CROWE. Mr. WOODW. and L. ncastr.* Mr. WOOD.] P. July. Aug.

JUN'CUS *conglomeratus*. Straw naked, very straight. *round headed* Head lateral.—

Math. 1036.—*Leers* 13. 1, *fructification and head.*—*J. B.* ii. 520.

2.—*H. ox.* viii. 10. 7.—*Park.* 1191. 3.—

Nearly allied to the *J. effusus*. LINN.—*Empal. hufk*, valves small, skinny. *Cup*, leaves skinny at the edge. *Seeds* kidney-shaped. WITH.—*Chives* always 3, never 6. LEERS. RELHAN. ST.—*Seeds* oblong, somewhat boat-shaped. ST.

Moist meadows and heaths.

P. July. Aug.

Used to make wicks for watch lights, and the pith in toys.

JUN'CUS *effusus*. Straw naked, quite straight. *soft* Panicle lateral.—

Leers 13. 2, *panicle and fructification.*—*Dod.* 605. 2, *repr. in Lob.*

43. 2, *Ger. em.* 35. 1.—*H. ox.* viii. 10. 4.—*Park.* 1191. 2.

—*J. B.* ii. 521. 1.—*C. B. th.* 182.—(*J. B.* ii. 520. 1, is *J. inflexus.*)

Chives 3. RELHAN.

Seaves.—Wet meadows and pastures.

P. June.—Aug.

Rushes are sometimes used to make little baskets. The pith of this and the preceding species is used instead of cotton to make the wick of rush-lights.

Horses and Goats eat it.

β. HALL. and HUDS. *Juncus inflexus*, which see.

JUN'CUS *inflexus*. Straw naked, membranaceous, *hard* and bowed in at the end. Panicle lateral.—

Leers 13. 3.—*Ger.* 31. 2.—*C. B. th.* 184, *cop. in H. ox.* viii. 10. 25.—*H. ox. ib.* 13.—*Dod.* 605. 3, *repr. in Lob. obs.* 43. 3, *Ger. em.* 35. 4.—*Barr.* 204.—*J. B. ii.* 520. 1.—(521. 1, is *J. effusus*.)

Chives 6. RELHAN.

By no means a variety of *J. effusus*. MR. WOODWARD.

Pastures and road sides in a moist soil.

P. July.

A Horse refused it. ST.

leaf JUN'CUS *flifor'mis*. Straw naked, thread-shaped, nodding. Panicle lateral.—

Leers 13. 4.—*Scheuch.* 7. 11.—*Pluk.* 40. 8.

Straw slender, 6 inches high. RAY.—So as hardly to support itself. Panicle not always expanded, about the middle of the straw.

Turfy bogs on mountains. Not far from Amblefide. RAY.

P. Aug.

trifid JUN'CUS *trif'idus*. Straw naked, terminated by 3 leaves and flowers. LINN.—Rather, Leaves 3 at the end of the straw, with torn leaf-scales. ST.*—Flowers sometimes 1 and 2. LIGHTF.—And 4. MR. WOODWARD.

Lightf. 9. 1. at p. 186.—*Jacq. vind.* 4. 1.—*Fl. dan.* 107.—*C. B. pr.* 22. 2, *repr. in th.* 185. 2, the head *cop. in Park.* 1195. 3.—*J. B. ii.* 521. 1.

The specimens I found had all single flowers. LIGHTF.—Specimen from Scotland with 4 flowers. Leaves sheath-like at the base; sheath in the larger specimens membranaceous at the point and edges; point torn into fine hair-like segments; in the smaller consisting of 2 egg-awl-shaped brown leaf-scales, one on each side, one lapping over the other and inclosing the straw, torn into long whitish bristle-shaped segments. ST.

Bogs on the summits of the Highland mountains. P. June.

mos JUN'CUS *squarro'sus*. Straw naked. Leaves bristle-shaped. Heads congregated, leafless. LINN.—Rather, Panicle terminating. Flower-sheaths sometimes running out into leaves. ST.

Fl. dan. 430.—*H. ox.* viii. 9. 13.—*Park.* 1193. 2.—(*Ger.* 18. 4, *cop. in C. B. th.* 78.—*Ger. em.* 21. 4, *cop. in Park.* 1270. 6, the middle straw has a terminating spike like the barren spike of a *Carex*.)

* Foliis tribus terminalibus, stipulis laceris, ST.

The whole plant stiff. Leaves expanding. LINN.

Moss Rush. Goose Corn.

Barren turfy bogs on heaths. P. June. July.

Horses eat it. The leaves lying close to the ground elude the stroke of the scythe. It indicates a barren soil.

** Straws leafy.

† *Juncus trifidus*, which see above.

JUN'CUS *compressus*. CURT. cat. n. 628.

flat-stalked

JUN'CUS *articulatus*. Leaves with knotty joints. *jointed*
Petals blunt.—

α. *aquaticus*. LINN.

Leaves compressed. Panicle once divided. HALL.

H. ox. viii. 9. 2. *f.* 9, the 3 right hand straws.—*C. B. pr.* 12. 1,
repr. in th. 76. 2, and *cop. in Park.* 1270. 5.—*Ger. em.* 22. 9.—

J. B. ii. 521. 2.—*Ger.* 12. 1.

The leaves are not so properly jointed as separated transversely by partitions, which become visible when pressed by the fingers or held against the light. LINN.—Leaves in bundles, sheathing each other, thin, scored and membranaceous at the base; awl-shaped towards the top. Flowers about 6 in a head. *Empal.* purplish brown. Chives shorter than the empalement. Tips straw-coloured. Pointal as long as the empalement. Summits purplish. Seed-bud with 3 furrows, corners blunt. WITH.

Wet meadows and pastures.

P. July. Aug.

β. Producing bundles of leaves in place of flowers. LINN.—Leafy spikes reddish, occasioned by an insect having taken up its abode in it. RAY.—Of the *Coccus* tribe. LIGHTF.—I have seen them abounding with minute insects. WITH. ST.—The *Acarus gymnopteronum*, some very small ones not larger than Cheese Mites, and a maggot of the Flesh Fly. Flowers as usual from the same roots. ST.

C. B. pr. 12. 2, *repr. in th.* 77.—*H. ox.* viii. 9. 2. *f.* 9, left hand stem.

Bogs.

Sept.

γ. *Sylvaticus*. LINN.—Leaves cylindrical. HALL.

H. ox. viii. 9. 1. *f.* 8.

Whether this and α be specifically distinct, or merely varieties from difference of soil, is a subject of future enquiry. LINN.—They appear to be varieties. RETZ. ST.—And those not constant. RETZ.

γ. HUDS. MR. WOODW. ST.—Leaves bristle-shaped. Capsules much smaller. RAY.

H. ox.

H. ox. viii. 9. row 2. 3.

Sandy heaths. [Bogs on Birmingham Heath. ST.]

viviparous 4. Leaves bristle-shaped. Heads roundish, with leafy bulbs intermixed. ST.

H. ox. ib. 4.—*Scheuch.* 7. 10.—*Pluk.* 32. 3.

Stem to 10 inches high. Leaves with knotty joints. I at first imagined it, with Ray and Haller, to be a distinct species, not being able to discover the knots in the leaves, but, on a more attentive examination, I was satisfied of their existence. ST.

Juncus viviparus. CURT. cat. n. 629.

Bogs on Birmingham Heath.

P. Aug. ST.

5. Husks white. Not common. Mr. WOODWARD.

bulbous JUN'CUS *bulbosus*. Leaves strap-shaped, channelled. Capsules blunt.—

Leers 13. 7.—*H. ox.* viii. 9. 11.—*J. B.* ii. 522. 3.—*Fl. dan.* 431.

—*Barr.* 114, and 747. 1 and 2.—(*Gmel.* i. 17. 2, a different plant.)

Roots creeping, thick together. Straws thread-shaped, a little compressed. Floral-leaves as long as the broad-topped spikes. General and partial Broad-topped Spikes unequal. Capsules egg-shaped, brown, shining. LINN.—Straws 2 inches to 2 feet high. Mr. WOODWARD.

Wet meadows and heaths. [Sea coast. Salt water ditches, near Yarmouth. Mr. WOODWARD.]

Cows, Goats, Sheep, and Horses eat it.

toad JUN'CUS *bufonius*. Straw forked. Leaves angular. Flowers solitary, sitting.—

Leers 13. 8.—*H. ox.* viii. 9. 14.—*Ger. em.* 4. 4.—*Ger.* 4. 4, cop.

in *Park.* 1190. 8.—*Barr.* 263. 1.—*Rose* 2. 5 and 6, and *Pet. gaz.* 51. 7, represent it in its seedling state.

Capsules brown, shining.

greater ♂ *Barr.* 264.—263. 2.

leaf ♀ *Park.* 1270. 11.

Much smaller, less branched, reddish, flowering a month or 6 weeks earlier. RAY.

viviparous 6. LIGHTF. WIGGERS.

Sandy meadows and pastures, especially in places that have been overflowed in the winter.

A. July. Aug.

Horses eat it.

In its infant state it has been gathered, though but by few. LINN.—See figures above.

JUN'CUS

JUN'CUS *biglumis*. Leaf awl-shaped. Husk with 2-flow^{ered}
2 flowers, terminating. LINN.—Rather flower-leaves than
husk. ST.

Fl. dan. 120.—*Amoen. acad.* ii. 3. 3.

Root fibrous, simple, perpendicular. Straw somewhat more than a thumb's breadth high, cylindrical, marked with a single longitudinal score, at the root surrounded by the remains of 4 or 5 decayed leaves. Leaf single, as long as the straw, glossy, cylindrical, as thick again as the straw, at the point tubular and dead; channelled below, sheathing the straw from the middle to the base. Husk, outer valve large, egg-shaped, tapering, blackish purple, green on the back, keeled; the lower as small again, pointed, blackish purple on both sides. Petals spear-shaped, blackish purple; the 3 outer marked within along the middle with a greenish line. Threads white, 3 inserted into the base of the petals, 3 fixed to the base of the seed-bud. Seed-bud blunt, corners with a kind of fringe. Summits purplish, as long as the shaft. Agrees in many respects with *J. triglumis*, but other circumstances will not permit it to be considered as a variety. LINN.—Straw a finger high, naked. Leaves few, scarcely half the length of the straw, flat. Fence, outer valves awl-shaped, longer than the flowers; inner oval and shorter. Perhaps only a variety of *J. triglumis*. LIGHTF.

Upon the top of Mal-ghyrdy a mountain between Glenloch and Glenlyon, and upon Ben Teskerny, both in Breadalbane. Discovered by Mr. Stuart.

P. Aug.

JUN'CUS *glau'cus*. CURT. cat. n. 632.

glaucous

JUN'CUS *triglumis*. Leaves flat. Husk with 3 flowers, 3-flow^{ered}
terminating.—

Fl. dan. 132.—*Lightf.* 9. 2.—*Fl. lapp.* 10. 5.—*H. ox.* viii. 12. 40,
referred by Linnæus to *Schænus ferrugineus*.

Leaves grass-like, sheathing the straw at the base. Straw simple, leafless. Flowers sitting. LINN.—Husk and capsules chocolate-coloured. LIGHTF.

Bogs on mountains. on Trigvylchau, near Llanberrys, and Llyn y Cwn, near Snowdon; East side of Craig-Chealleach above Finlarig Breadalbane, &c. See *Lightf.* p. 1120. P. June.—Aug.

JUN'CUS *pilo'sus*. Leaves flat, hairy. Broad-topped hairy
spike branching. LINN.—Flowers solitary. HUDS. ST.

Leers 13. 10.—*H. ox.* viii. 9. row 1. 1. f. 3.—*Ger. em.* 19. 1,
cop. in Park. 1184. 1.—*Ger.* 17. 1, repr. in *C. B. th.* 101.—(*Fl.*
dzn. 441, is *J. sylvaticus*.)

Leaves

Leaves, hairs at the edges thin-set, and soon falling off. *Panicle*, branches, some simple, others forked, part of them bent back. SCHEUCH. ST.—*Leaves* often longer than the straw. *Husk*, valves mostly blunt, and gnawed at the end, but frequently taper and sharp pointed, chestnut-coloured, with white membranaceous edges. *Petals* glossy, blackish chestnut, with white membranaceous edges. *Flowers* from $1\frac{1}{2}$ to 2 lines long. ST.

Woods, common.

P. Apr. May.

Goats, Sheep, and Horses eat it. Cows refuse it.

wood JUN'CUS *syloaticus*. Leaves flat, hairy. Broad-topped spike doubly compound. Flowers bundled, sitting. HUDS.—Broad-topped spike longer than the flower-leaves. Flowers mostly 2 together, rather than bundled. ST.*

Fl. dan. 441.—H. ox. viii. 9. row 1. 2, f. 4.—J. B. ii. 493. 2.—

C. B. pr. 15. 1, repr. in th. 102, and cop. in Park. 1185. 3, and

H. ox. viii. 9. row 1st f. 5, between 2 and 3.

Leaves in bundles, edges closely beset with long hairs. *Panicle* larger and more spreading than that of *J. pilosus*; branches terminated generally by 2, and sometimes by 1 or 3 flowers. *Husk*, valves sharp-pointed. *Petals* equal, chestnut-coloured. SCHEUCH. ST.—*Leaves* bowed downwards, stiffish, shorter than the straws. Broad topped spike, primary branches more than twice as long as the central divisions; secondary & tertiary branches ascending, none bent back as in *J. pilos.* Flowers to nearly $1\frac{1}{2}$ line long. *Petals* whitish at the edge. It is not easy to conceive how the dust is conveyed to the pointal, for the tips do not shed their dust till a considerable time after the pointal has made its way thro' the blossom, which, closing upon the chives and seed-bud, one should imagine would prevent any of the dust from escaping so as to reach the summits. I suspect the blossom expands when the dust is ripe, but I have never been able to find it in that situation. ST.

Woods and hedges, near Hampstead. [Whitell Gell, near Askrig, Yorkshire, and at the bottom of the Rye-loaf near Settle. CURT.—Witchery Hole, near Clifton upon Teme, Worcester-sh. Mr. BALLARD. ST.] P. May.

field JUN'CUS *campest'ris*. Leaves flat, somewhat hairy. Spikes sitting, and on fruit-stalks.—

* *Corymbo foliis floralibus longiore, floribus subbifloris*, to distinguish it from *J. niveus* and *nemorosus* of Pollich. ST.

Curt. iii. 24.—*G. B.* fr. 15. 2, repr. in th. 103.—*II.* ex. viii. 9. row 1. 4.—*Leers* 13. 5.—*J. B.* ii. 493. 3.—*Ger. em.* 17. 2, cop. in *Park.* 1185. 6.—*Ger.* 16. 2.

Straw cylindrical, smooth, a span high. Leaves alternate, upright, sheathing, spear-shaped, hairy at the edge. Spikes roundish, 1 sitting, the rest, about 4, on unequal fruit-stalks. Empalement pointed. Summits 3, longer than the empalement, twisted. LYONS.

Pastures, meadows, and heaths.

P. April. May.

γ Panicle larger, more compact. Spikes globular. Straw and globe-headed leaves as long again. RAY.

H. ex. viii. 9. row 1. f. 1, in the left hand corner.—*Ger.* 16.

1, repr. in *G. B.* th. 104, cop. in *Park.* 1186, and *J. B.* ii. 468. 2.

Turfy bogs, common.

P. Flowers a month later.

Sheep, Goats, and Horses eat it.

JUN'CUS *spica'tus*. Leaves flat. Spike bunch-like, spiked nodding.—

Fl. dan. 270.—*Fl. lapp.* 10. 4.

Very nearly allied to, if not a variety of *J. campestris*. LINN.—I have seen the *J. campestris* growing with it; but they are perfectly distinct. DR. SMITH.

Near the summits of the Highland mountains. On Ben-na-ferec, Invernessh. Mal-ghyrdy in Breadalbane, and on a mountain a little to the north of Meggerny. [On the very summit of Ben Lomond. DR. J. E. SMITH.]

P. July. Aug.

476. BER'BERIS. Barberry.

EMPAL. Cup 6 leaves; standing wide. Leaves egg-shaped; narrowest at the base; concave; coloured; deciduous; alternately smaller.

BLOSS. Petals 6; roundish; concave; not quite upright; scarcely larger than the cup. Honey-cups 2 roundish coloured substances, growing to the base of each petal.

CHIVES. Threads 6; upright; compressed; blunt. Tips 2; adhering to each side of the thread, at the end.

POINT. Seed-bud cylindrical; as long as the chives. Shaft none. Summit cylindrical and flat; broader than the seed-bud; encompassed by a sharp border.

S. VESS. Berry cylindrical; blunt; dimpled; with 1 cell.

SEEDS 2; oblong; cylindrical; blunt.

Ess.

Ess. CHAR. *Empal.* 6 leaves. *Petals* 6; with 2 glands at the claws. *Shaft* 0. *Berry* with 2 seeds.

common BER'BERIS *vulgaris*. Fruit-stalks in bunches. *Syst. veg.*—Thorns 3-forked. *Fl. suec. and Murr.*

Mill. 63.—*Blackw.* 165.—*Fuchf.* 543.—*Trag.* 993.—*Clus.* i. 120. 2; repr. in *Dod.* 750, *Lob. obs.* 599. 2, *Ger. em.* 1325, and cop. in *Park.* 1559.—*J. B.* i. 6. 54.—*Ger.* 1144.—*Lon.* i. 46. 1.—(*Blackw. ib.* 2, is surely a species of *Prunus.*)

The first leaves inversely egg-shaped, between serrated and fringed, not jointed. *Leaf-scales* terminated on each side by a hair-like tooth. *Stem-leaves* alternate, the lowermost somewhat wing cleft, with thorny teeth; the rest are changed into 3-forked thorns. The secondary leaves in pairs, oblong, serrated. Between the lowermost leaves and the thorns are concealed lesser leaves. Thus, when the leaves of the present year are changed into thorns, others will succeed to take place of them in the next. Is there any instance analogous to this? *LINN. sp. pl.*—*Leaf-scales* solitary, 3-forked, changing into thorns. *Fl. suec. ST.*—In searching for the honey-cup at the base of the petals when the flower is fully expanded, if you happen to touch the threads, though ever so slightly, the tips burst and throw out the dust with a considerable expansive force.—The threads of this plant, though said by Linnæus to be upright before the tips are ripe, are only expanding; and only upright after they have shed their dust, or are about to do it. When the tips are thoroughly ripe, if the bottom of the thread be irritated with a pin, or a straw, the chive rises with a sudden spring, and strikes the tip against the summit of the pointal; affording a remarkable instance of one of the means used to perform the important operation of impregnation. *Mr. WHATELY, from Dr. SIMS.*—*Bloss.* yellow, sometimes streaked with orange. *Berries* red. *WITH.*

Barberry. Tipperidge-bush.

Woods and hedges. On Chalk Hills. About Walden, Essex. S. May. June.

The leaves are gratefully acid. The flowers are offensive to the smell when near, but at a proper distance their odour is extremely fine. The berries are so very acid that birds will not eat them, but boiled with sugar they form a most agreeable rob or jelly. They are used likewise as a dry sweetmeat and in sugar-plumbs. An infusion of the bark in white wine is purgative. The roots boiled in lye dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow, with the assistance of alum. This shrub should never be permitted to grow in corn lands, for the

ears

ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as 3 or 4 hundred yards across a field. WITH.

Cows, Sheep, and Goats eat it. Horses and Swine refuse it. LINN.—And the former refused the young leaves picked off the branches. ST.

481. FRANKENIA. Frankwort.

EMPAL. Cup 1 leaf; nearly cylindrical; 10-cornered; permanent. Rim with 5 sharp teeth; standing out.

BLOSS. Petals 5; the claws as long as the cup; border flat; limbs nearly cylindrical and expanding. Honey-cup a channelled, tapering claw, fixed to each claw of the petals.

CHIVES. Threads 6; as long as the cup. Tips roundish; double.

POINT. Seed-bud oblong. Shaft simple; as long as the chives. Summits 3; oblong; upright; blunt.

S. VESS. Capsule oval; of 1 cell, and 3 valves.

SEEDS many; egg-shaped; small.

ESS. CHAR. Empal. funnel-shaped; with 5 clefts. Petals 5. Summit 6 divisions. Capsule 1 cell; 3 valves.

OBS. To be referred to the natural order of Personatæ.

FRANKENIA *la'vis*. Leaves strap-shaped, crowded, smooth fringed at the base.—

Michel. 22. 1.—Lob. adv. 180. 3, repr. in Ger. em. 566. 3.—Barr.

714.—J. B. iii. 703. 2.—Pet. 10. 11.—(Park. 1484, has tiled leaves.)

Leaves rolled back at the edge, somewhat fringed on each side at the base. Flowers at the divisions of the stem, and in the middle of a bundle of leaves, solitary, sitting. Shaft deeply cloven into 3.

RELHAN.—Stem and leaves thinly sprinkled with white globular particles. Leaves fleshy, egg-shaped, but the edges being rolled in they appear almost cylindrical with a groove underneath, flattened at the base. Empal. with 6 or 7 ribs and as many teeth. Petals wedge-shaped, a little scalloped at the end. Honey-cup a fleshy scale, fixed to the base of each petal. Threads taper, flat on one side, convex on the other. Tips yellow. Shaft cloven half way down into 3 segments. WITH.—Stems numerous, branched, trailing. Blossoms purple.

Salt marshes in a muddy soil. Lovingland, near Yarmouth. Isles of Shepey and Thanet; Essex, Suffex, and Kent, common. [Near Yarmouth. Mr. CROWE.]

dusky FRANKENIA *pulverulenta*. Leaves inversely egg-shaped, dented at the end, dusted underneath.—

Clus. ii. 186. 2, repr. in *Dod.* 376, and *Ger. em.* 566. 2.—*Zanon.* 79.—*Lob. adv.* 196. 2.

Stems lying flat, slender, branching; knots about a finger's breadth from each other. Leaves 4 at a joint, hoary underneath. Flowers in the bosom of the leaves. MONT. in *Zanon.* ST.—Sitting. Leaves with very short hairs underneath, edges not rolled in, on short leaf-stalks. Empalement tough, rigid, with 5 angles; teeth upright. ST.

Sea coast of Suff. between Bognor & Brighthelmstone. A. July.

482. PEP' LIS. Purflane.

EMPAL. Cup 1 leaf; bell-shaped; very large; permanent. Rim with 12 teeth; every other bent back.

BLOSS. Petals 6; egg-shaped; very minute; growing from the mouth of the cup.

CHIVES. Threads 6; awl-shaped; short. Tips roundish. POINT. Seed-bud egg-shaped. Shaft very short. Summit cylindrical and flat.

S. VESS. Capsule heart-shaped. Cells 2; with an opposite partition.

SEEDS many; 3-cornered; small.

ESS. CHAR. Empalement bell-shaped; mouth with 12 clefts.

Petals 6, inserted into the cup. Capsule, cells 2.

Obs. In the greater number of the flowers, of one and the same plant, the blossom is altogether wanting.

water PEP' LIS *Portula*. Flowers without petals. LINN.—More commonly without. LINN.—Rather, Flowers with 6 chives. ST.*

Curt. iv. 48.—*Vaill.* 15. 5.—*Fl. dan.* 64.—*Mich.* 18. 1.—*Ger. em.* 614. 11, cop. in *Park.* 1260. 4.—*J. B.* iii. 372. 3, leaves too pointed.

Leaves the thinnest of all plants. LINN.—Stem creeping, 4-cornered, reddish. Branches upright, 3 inches long. Leaves opposite, spatula-

* Floribus hexandris. ST.

spatula-shaped, smooth, very entire. *Flowers* from the bosom of the leaves, sitting. *LYONS.*—*Petals* very soon falling off, sometimes, though rarely, 6. *RÉLH.*—Inversely egg-shaped. They are thin, but not more so than several of the Euphorbias and many aquatics. *Petals* 6, inversely egg-shaped, with a sharp point, expanding, inserted at the base of the long teeth of the empalement, pale red, readily falling off. *ST.*—*Stem* rooting at the joints. *Leaves* tapering below into flat leaf-stalks. *Bloss.* very frequently wanting. *Threads* reddish purple. *Seed-bud* compressed. *WITH.*—*Stems* numerous, creeping. *Leaves* opposite; two at each joint. *Bloss.* sitting at the base of the leaves, purplish.

Marshy and watery places.

P. Sept.

Order II.

TRIGYNIA; III. POINTALS.

485. RU'MEX. Dock.

EMPAL. *Cup* 3 leaves; blunt; reflected; permanent.

BLOSS. *Petals* 3; egg-shaped; not unlike the cup, but larger; approaching; permanent.

CHIVES. *Threads* 6; hair-like; very short. *Tips* upright; double.

POINT. *Seed-bud* turban-shaped; 3-cornered. *Shafts* 3; hair-like; reflected; standing out in the spaces between the approaching petals. *Summits* large; jagged.

S. VESS. none. The blossom approaching, and becoming 3-cornered, contains the seed.

SEEDS single; 3-sided.

ESS. CHAR. *Empalement* 3 leaves. *Petals* 3, approaching. *Seed* 1, 3-square.

Obs. In some of the species a callous grain or bead grows on the outside of the petals, (or the ripe petals, when they inclose the seed. *ST.*)

* *Chives and pointals in the same flower. Valves marked with a grain.*

RU'MEX sanguin'eus. Valves very entire, only 1 small-grained with a grain. Leaves heart-spear-shaped.—

1. bloody.

Munt. brit. 113, *cop. in phyt.* 691. 196.—*Pet.* 2. 5.—*J. B.* ii. 989.

1.—*Blackw.* 492.—*Dod.* 650. 2, *repr. in Lob. obs.* 154, *ic.* i.

290. 1, *Ger. em.* 390, and *cop. in Park.* 1226. 10, and *H. ox.* v. 27. 6.

Leaves with red veins containing a blood-coloured juice. *Outer valve* of the flower with a large red globular grain, and sometimes the other with a small grain. It migrated from Virginia to Hampsted in England. LINN.—*Blossoms* reddish.

Bloodwort.—Woods near Hampsted, but not frequent, and near Maidstone, Kent. B. July.

bloodless 2. *Leaves* without red veins. RAY. ST.

Curt. iii. 31.*—*Blackw.* 491.—*Pet.* 2. 6.

Leaves finely notched, curled at the edge. *Stem-leaves* usually waved. *Flowers* pendant, in half whorls. *Fruit-stalks* with a joint at the base. *Valves* thrice as small as any of the other species, oblong, bluntish, very entire; one, and that the outer, always bearing a little grain, which is at first oblong, but at length becomes round and prominent. In shady situations pale, in exposed situations very red. CURT. ST.

Lapathum viride. R. *syn.* 141.

Woods, hedges, sides of rivers and roads, and sometimes in fields and meadows. P. June. July.

curled RU'MEX *crispus*. *Valves* entire, with grains. *Leaves* spear-shaped, waved, pointed. LINN.—*Valves* imperfectly toothed towards the base, in some plants generally only 1, and rarely 2 with grains. ST.

Curt. ii. 18.—*Munt. brit.* 104, *cop. in phyt.* 690. 190.—*Ger.* 312.

4, *cop. in Pet.* 2. 2.

Grains on the valves very large, nearly round. MR. WOODW.—*Root* yellow. CURT.—*Valves* round heart-shaped, with a bluntish imperfect angle on each side, giving it the appearance of a pentagon, veined; *grains* roundish egg-shaped, prominent; the larger more than half as long as the valve. ST.

Meadows, pastures, road sides, and cultivated ground. In almost all soils. P. June. July.

In Norfolk it is the pest of clover fields. MR. WOODWARD.—The fresh roots bruised and made into an ointment or decoction cure the itch. The seeds have been given with advantage in the dysentery.—Cows and Goats refuse it.

* Named *R. acutus*, but it cannot be the *R. acutus* Linn. which is characterised with toothed valves. MR. WOODWARD. ST.

R U ' M E X *maritimus*. Valves toothed, with grains. *golden*
Leaves strap-shaped.—

β. HUDS.—Whorls of flowers fewer. Seeds larger. PLUK.

Curt. iii. 28.—Lob. obs. 151. 2, repr. in ic. i. 286. 1, and Ger.
em. 389. 2, cop. in Park. 1225. 8, and J. B. ii. 987. 2.—Pet.

2. 7.

Root red. LINN.—Differs from *R. acutus* in the whorls of flowers being more numerous and closely set, and the leaves below the whorls being shorter. RAY.—Seeds larger, and whorls of flowers fewer than in variety 2. PLUK.—Root without of a reddish brown, within of a beautiful carmine red. Leaves sometimes found with red veins, like those of *R. sanguineus*. Valves green, with 2 or 3 fine long teeth on each side; grains oblong, rather large. CURT.—Stems very leafy. MI. WOODWARD.

Rumex aureus. RELH. an unjustifiable change of what ought to be inviolate.

Hydrolapathum minus. Park. 1225.—(*Lapathum acutum minimum*. *R. syn.* 141. n. 5, seems rather to be a variety of *R. acutus*.—Haller 1590, has “valves entire at the edge.”) ST.

Road sides, and amongst rubbish. Tothill Fields, London. PLUK.—St. George's Fields, and many places about London. RAY. CURT. P. July.—Sept.

α. HUDS.—Whorls crowded, and when ripe covering the branches so as to give them the appearance of spikes. Flowers yellow. ST.

Pet. 2. 8.—J. B. ii. 988. 1.

Bur Gold Dock.—*Lapathum aureum*. *R. syn.* p. 142. n. 10.

Stem branched, scored, cylindrical. Leaves pointed, flat, smooth on both sides, keeled. Flowers keeled, in whorls, numerous. Valves triangular, pointed, deeply toothed, all with grains. LYONS.—I am clearly of opinion that this is a distinct species, and which may be distinguished by Petiver's name of *aureus*, which Mr. Relhan has improperly applied to the true *R. maritimus*. ST.

In marshes; about Crowland, Lincolnshire; near the Trent at Swarston, Derbyshire; and between Hithe and the sea. RAY.—Sea coast, in low wet places. Solway Frith. LIGHTF.—[Severn Stoke, Worcestershire. Mr. BALLARD. ST.] P. July. Aug.

R U ' M E X *acutus*. Valves toothed, with little grains. *sharp-pointed*
Leaves heart-oblong, taper-pointed.—

Fuchf. 461, cop. in J. B. ii. 984. 1.—Lonic. i. 87. 1.—Pet. 2. 3.

—H. ox. v. 27. 3, leaves.—(In Matth. 446, imitated in Dod. 643. 1, which repr. in Lob. obs. 150. 2, ic. i. 284. 1, Ger. em. 388. 1, and cop. in Park. 1225. 1, and Munt. brit. 88, which

cop. in phyt. 189, the flowers are on long solitary fruit-stalks.—*Blackw.* 491, seems to be *R. sanguineus*, variety 2.—*Curt.* iii. 31, is *R. sanguineus*, variety 2, which see.)

Teeth of the valves, several on each side, unequal, equal in length to the diameter of the valve. LINN.—Leaves flat throughout, not curled, very entire. Flowers greenish, in whorls on the stem and branches. A flower-leaf to each whorl, extending a good way beyond the whorl. POLlich.—Flowers in separate whorls, with a strap-shaped leaf to each whorl. Seeds more than as small again as the *R. obtusifolius* and *crispus*. RAY.—Stem upright, branching, angular, scored, solid. Branches upright. Leaves on leaf-stalks, pointed, smooth, veined underneath, keeled. Leaf-stalks scored, half embracing the stem. Leaf-scales membranaceous, within the leaf-stalks, and without the fruit-stalks. Flowers in whorls. Valves ferrated below, oblong, bluntish, one of them with a grain. LYONS.—I have never seen this plant. What is commonly taken for it has “valves very entire, one of them with a grain,” as described by Mr. Curtis, but appears to be a variety of *R. sanguineus*. ST.

Meadows, pastures, and road sides. HUDS.—In uncultivated and watery places. RAY.

Cows and Horses refuse it.—It is infested by the *Aphis Rumicis*. LINN.—The root is used by the dyers. It gives a great variety of shades, from straw colour to a pretty fine olive, and a fine deep green to cloths which have been previously blued. ST.

broad-leaved RU'MEX *obtusifolius*. Valves toothed, with grains. Leaves heart-oblong, bluntish, finely notched.—

Curt. iii. 29.—*Lob. ic.* i. 285. 1, repr. in *Ger. em.* 388. 3, *cop. in Park.* 1225. 4, and *Pet.* 2. 9.—*Munt. brit.* 68, *cop. in phyt.* 187, teeth of the valves not expressed.—*Ger.* 312. 3, *cop. in J. B.* ii. 985. 1.

Stem-leaves spear-shaped, pointed. MR. WOODWARD.—Stems furrowed, and set with short white transparent bristles, about 2 ft. high. Leaves curled at the edge, ribs downy; the upper heart-strap-spear-shaped. Leaf-stalks shorter than the breadth of the leaves. Fruit-stalk sprinkled near the top with white shining globules. Pedicles surrounded near the base by an indistinct cartilaginous ring. *Empal.* leaves boat-shaped, nearly as long as the petals. Petals spear-shaped, flat, green, not very evidently toothed. Tips white, or yellow. Summits pencil-shaped. Valves, that with the largest grain outermost when the fruit-stalk bends downwards, and with the longest teeth; none of the teeth equal in length to the diameter of the valve. WITH.

Amongst

Amongst rubbish, farm yards, courts, and sides of ditches.

P. July. Aug.

Fallow Deer eat it with avidity, biting it close to the root, so that it is very rarely to see a Dock growing in a park. MR. DICKENSON. MR. HACKETT.

Horses sometimes eat it. ST.

R U' M E X *pul'cher*. Valves toothed; generally one fiddle with a grain. Root-leaves fiddle-shaped.—

H. ox. v. 27. 13.—Pet. 2. 10.—J. B. ii. 988. 3, stem bad.—Till. pis. 37. 2, seed-vessel and leaf, but without its characteristic hollow.

Stem-leaves egg-oblong, entire, not hollowed out at the sides. *Flowering branches* bowed back. *Valves* blunt at the end, the outer with a grain, and the rest with an imperfect grain. LINN.—*Stem* much branched. *Branches* alternate, with a strap-spear-shaped leaf under each. MR. WOODWARD.

Rubbish, dry meadows, and road sides. [In Norfolk, very common. MR. WOODWARD.]

P. July. Aug.

R U' M E X *paludofus*. Valves entire, with grains. *marsh*
Leaves egg-spear-shaped, somewhat pointed. HUDS. ST.
—Grains roundish egg-shaped.* ST.

(*J. B. ii. 987. 2.? Huds.—Rather R. maritimus, variety 1.*)

Root branching. *Stem* upright, 4 feet high, scored, branching; *branches* alternate, upright. *Root-leaves* egg-shaped, bluntish, somewhat finely notched; *stem-leaves* alternate, on leaf-stalks, somewhat finely notched, rather pointed, flat, naked, on short leaf-stalks. *Leaf-scales* sheathing, membranaceous. *Flowers* in whorls, on fruit-stalks. *Whorls* generally distinct. *Valves*, the outer with a large red grain; the rest with a small grain. HUDS.—Resembles the *R. crispus*. Doubtful whether a distinct species. RAY. MR. WOODWARD. ST.—Whole plant very smooth. *Stem* furrowed. *Leaves* a little scolloped and waved at the edge. *Fruit-stalks*, some as long, others twice as long as the fruit, with a very evident ring somewhat below the middle. *Valves* slightly toothed; particularly towards the base, only 1 of them with a grain. WITH. ST.—Sometimes, though very rarely, two of them with grains; grains roundish-egg-shaped, nearly 3 times shorter than the valves. In its foliage it resembles the *R. Hydrolapathum*, and in its fruit most exactly the *R. crispus*, of which it is possibly only a var. ST.

R. florib. herm. ad alas, &c. Boehm. lips. n. 576.—R. crispus. β, Pollich. ST.

* Grains subrotunde-ovatis. ST.

Marshes and banks of rivers. [Near Tamworth. WITH.]

P. Aug.

water R U M E X *Hydrolap'athum*. Valves entire, with grains. Leaves spear-shaped, pointed.* HUDS. WITH. ST.—Grains oblong-spear-shaped. ST.†

Munt. brit. 1, cop. in Munt. phyt. 697. 202.—Pet. 2. 1.—Ger. 311.

1, ill cop. in J. B. ii. 1.—(Dod. 648. 2, repr. in Lob. obs. 151.

1, ic. i. 285. 2, Ger. em. 389. 1, and cop. in Park. 1225. 7,

is *R. Patientia*, as is evident from its curled leaves.—Blackw.

490.—And Matth. 450, are *R. aquaticus*.)

Valves sometimes toothed. HALL. ST.—Stem 2 to 4 feet high, upright, green, angular, channelled. Leaves on leaf-stalks, $1\frac{1}{2}$ to 2 feet long, 3 or 4 inches broad, the edge, especially in those of the stem, somewhat curled. Flowers pale, in panicles. Fruit-stalks hair-like. Valves very entire. RELHAN.—Root white within, black without. Stem 5 or 6 feet high, furrowed. Leaves a little toothed and waved at the edge; the lower ones to 18 inches long. Leaf-stalks semi-cylindrical, hollowed on the surface, ribbed underneath, those of the lower-leaves sometimes 15 inches long. Fruit-stalks encompassed a little below the middle with an indistinct ring, in half whorls. Whorls from alternate sides of the stem and branches, surrounded by a skinny sheath. Empal. of 1 leaf, with 3 divisions; segments spear-shaped, somewhat concave. Tips yellowish white. Seed-bud, the sides hollow. Summits flat, fringed. Valves very slightly toothed, especially towards the base; teeth becoming more and more evident as the seed ripens; grains greenish white or purplish. WITH. ST.—Stem stiff, quite upright, branching above. Branches upright, or open. Stem-leaves nearly sitting. Fruit-stalks longer than the flowers, readily breaking off at the knot. Petals green, oblong-egg-shaped, with the edge sometimes imperfectly toothed. Chives, 2 inserted into the base of each petal. Summits feathered. Valves become 3 or 4 times as large as the petals, triangular, veined, all with grains; grains spear-shaped, fleshy, more than half the length of the valve. Seeds not quite half the length of the valve; the sides slightly hollow. Leaves retain their shape when transplanted into dry ground. ST.

R. aquaticus. MARTYN. LIGHTF. and Bot. Arr. ed. I.—Mistaken by the synonyms referred by Linnæus to that species, but that the

R. aquaticus,

* It could be wished that Mr. Hudson would afford us some marks by which to distinguish this from the *R. britannica*. ST

† Grains oblongo-lanceolatis. ST.

R. aquaticus, LINN. is a distinct species is evident from the Linnean character confirmed by Pollich's description and Blackw. figure. ST.

Marshes, wet ditches, pools, and sides of rivers. growing generally in the water where it is shallow, and seldom but in the water. RAY. ST.—[About Clifton, Worcesterfh. MR. BALLARD. ST.—And Tamworth. WITH. ST.] P. July. Aug.

It is a medicine of considerable efficacy, both externally applied as a wash for putrid spongy gums, and internally in some species of scurvy. In rheumatic pains, and chronical diseases, owing to obstructed viscera, it is said to be useful. The powdered root is one of the best things for cleaning the teeth. The root has sometimes a reddish tinge, but soon changing to a yellowish brown when exposed to the air.

The *Curculio Lapathi* is found upon the leaves.

** *Chives and pointals in the same flower. Valves naked, or without grains.*

R U ' M E X *digynus*. Shafts 2.

mountain

Fl. dan. 14.—Pluk. 252. 2.—H. ox. v. 36. row 3. f. 3.—Pet. 3. 4.

Flower cloven into 4, consisting of an *empalement* of 2 leaves, and a *bloffom* of 2 petals. *Seed-bud* compressed. *Seed* 2-edged, compressed. LINN.—*Stem* naked. *Leaves* kidney-shaped, slightly and irregularly notched, on long leaf-stalks. *Valves* roundish, tinged with red, membranaceous. MR. WOODWARD.

Acetosa rotundifolia, &c. R. syn. 143. (WITH.)

Mountains of Wales, Yorkshire, Westmoreland, Cumberland. Rocks by the sides of rivulets from the Highland mountains, and Isles of Rum and Skye. P. June. July.*

*** *Chives and pointals on distinct plants.*

R U ' M E X *Aceto'sa*. Leaves oblong, arrow-shaped.— Sorrel

Sheldr. 57.—Blackw. 230.—Park, 742, left hand figure; cop. in Pet. 3. 1.—Fuchf. 464, cop. in Trag. 315, and J. B. ii. 990. 1. —Matth. 447, cop. in Dod. 648. 4, repr. in Lob. obs. 155. 1, ic. i. 290. 2, Ger. em. 396. 1, and cop. in Park. 742. n. 1, and H. ox. v. 28. row 1. 1.—Ger. 319. 1.—Munt. brit. 174, cop. in phyt. 278. 73.—Lonic. 88. 2.

* RUMEX *scutatus*. Very common in the gardens of Yorkshire. I have sometimes seen it in situations which have tempted me to think it an indigenous plant. CURT.

The barren plant smaller. Fruit-stalks purple. *Empal.* expanding. The fertile plant taller. *Empalement*, the larger leaves bent back, the smaller upright, covering the feed-bud. One 3d of the flowers unproductive, even when growing near to the plant with chives. RELH.—Leaf-stalks purplish. Blossoms reddish.

Common Sorrell

Meadows and pastures.

P. June.

The leaves are eaten in fauces and in fallads. The Laplanders use them to turn their milk four. In France they are cultivated for the use of the table, being introduced in soups, ragouts, and fricassies. In some parts of Ireland they eat them plentifully with milk, alternately biting and supping. The Irish also eat them with fish, and other alcalescent food. The dried root gives out a beautiful red colour when boiled.

Horses, Cows, Goats, Sheep, and Swine eat it. The *Aphis Acetosæ* feeds upon it.

greater 2. Rocks on the sea shore near Harelech, Merionethsh. RAY.

sheeps

RU'MEX *Acetosella*. Leaves spear-halberd-shaped.—

Blackw. 307.—Trag. 316.—J. B. ii. 992. 1.—Dod. 650. 1.—

Lob. obs. 156. 1, repr. in ic. i. 291. 2, Ger. em. 397. 3, and

cop. in Park. 744. 13, H. ox. v. 28. 12, and Pet. 3. 2.—Munt.

brit. 189. 2, cop. in phyt. 76. 2, and brit. 182, cop. in phyt. 77.—

Matth. 448, cop. in Ger. 320. 3.—Park. 744. 15, cop. in H. ox.

ib. 11, and Pet. 3. 4, is the plant with barren flowers.—Zanon. 5.

Barren Plant. *Empal.* leaves expanding, the hinder part red. Tips red. Dust yellow. Fertile plant of the same size with the barren. *Empalement* green. Summits yellowish, generally imperfect. RELHAN.—Roots creeping. Blossoms yellowish.

Sheep's Sorrell.

Sandy meadows and pastures.

P. May. June.

Horses, Cows, Goats, Sheep, and Swine eat it.

small

2. Stem-leaves strap-shaped. Root-leaves strap-halberd-shaped. ST.

Ger. 321. 6.—Ger. em. 398. 6.

smallest

3. Stem-leaves strap-shaped. Root-leaves oval or oblong. ST.

Ger. 321. 7.

Obs. The *Phalæna fuliginosa*, *Atriplicis* and *Rumicis*, and the *Meloe Proscarabæus*, are found upon the different species of this genus,

TOFIEL'DIA. *Huds.*

EMPAL. none.

BLOSS. *Petals* 6; equal; oblong; blunt; concave; permanent.CHIVES. *Threads* 6; awl-shaped; smooth; as long as the petals. *Tips* small; roundish; fixed sideways.POINT. *Seed-bud* 3-cornered. *Shafts* 3; awl-shaped; expanding. *Summits* blunt.S. VESS. *Capsule* roundish; nearly 3-cornered; 3 cells, 6 valves.

SEEDS numerous; oblong; nearly 3-cornered; small.

HUDS. ST.

ESS. CHAR. *Empalement* 0. *Bloss.* 6 *petals.* *Capsules* 3, containing many seeds. ST.OBS. This genus forms the connecting link between *Scheuchzeria* and *Narthecium*, and these 3 compose the series connecting *Juncus* to *Anthericum*, and the rest of the *Liliacea*. ST.TOFIEL'DIA *palustris*.—

marsh

Fl. dan. 36, in fruit.—*Clus.* i. 198, and *cop. in Ger. em.* 96.—*Lightf.* 8. 2. at p. 124.—*Fl. lapp.* 10. 3.—*Gmel.* i. 18. 2.A small trifid floral-leaf at the base of each flower, resembling a cup. LIGHTF. ST.—*Flowers* in a bunch. *Fruit-stalks* very short. *Flower-scales* 2 to each fruit-stalk, the lower spear-awl-shaped, half sheathing the base of the fruit-stalk, the upper just below the flower surrounding the fruit-stalk. ST.*Asphodelus Lancastriæ verus.* *Ger. em.* 96. n. ‡ 2.Scotch *Asphodel.*

Bogs on mountains in Scotland. Near Berwick. On Glenmore, Rosshire, and Ben Grihum, Sutherland. About Loch Rannoch, Perthshire. Isle of Rum, and Bidan-nam-bian in Glenco.

P. July.—Sept.

Sheep and Goats refuse it.

488. TRIGLO'CHIN. Arrowgrafs.

EMPAL. *Cup* 3 leaves; nearly round; blunt; concave; deciduous.

BLOSS. *Petals* 3; egg-shaped; concave; blunt; resembling the leaves of the cup.

CHIVES. *Threads* 6; very fhort. *Tips* 6; fhorter than the petals.

POINT. *Seed-bud* large. *Shafts* none. *Summits* 3, or 6; reflected; downy.

S. VESS. *Capsule* oblong-egg-shaped; blunt; with as many cells as funmits. *Valves* fharp; opening at the bafe.

SEEDS folitary; oblong.

ESS. CHAR. *Empal.* 3 leaves. *Petals* 3, *fmilar to the empal.* *Shaft* o. *Capsule* opening at the bafe

marsh TRIGLO'CHIN *paluf'tre*. *Capsule* of 3 cells, nearly ftrap-fhaped.—

Fl. dan. 490.—*Leers* 12. 5.—*Trag.* 679.—*H. ox.* viii. 2. 18.—

J. B. ii. 508. 2.—*Ger.* 18. 1, repr. in *C. B. th.* 81.—*Ger. em.* 20. 1, cop. in *Park.* 1279. 10.

Root fibrous. LINN.—*Chives*, 3 contained within the leaves of the empal. and 3 within the petals. *Tips* double. Mr. HOLLEFEAR.—The pointed valves of the *capsule* opening at the bottom, give it the appearance of the head of an arrow. WITH.—*Flowers* in a long terminating fpike, greenifh.

Arrow-headed Grafs.

Wet meadows and pastures. [Tamworth. WITH.]

P. July. Aug.

Cows are extremely fond of it. Horses, Sheep, Goats, and Swine eat it.

fea TRIGLO'CHIN *marit'imum*. *Capsule* of 6 cells, egg-fhaped.—

Fl. dan. 306.—*Ger.* 12. 2, repr. in *C. B. th.* 82, and cop. in *Park.* 1278. 9, *H. ox.* viii. 2. 19, and *J. B.* ii. 508. 1.

Meadows near the fea. [Near Yarmouth. Mr. WOODWARD.—Salt marsh near Ingeftre, Staffordfh. ST.] P. May.—Aug.

It is falt to the tafte; but Horses, Cows, Sheep, Goats, and Swine are very fond of it. LINN.—May it not, therefore, prove a ufeul grafs on the fea fhore, and in falt marshes? ST.

492. COL'CHICUM. Tuberoot.

EMPAL. none; except, sometimes, a sort of scattered sheaths.

BLOSS. with 6 divisions. *Tube* angular; extending down to the root. *Segments* of the border spear-egg-shaped; concave; upright.

CHIVES. *Threads* 6; awl-shaped; shorter than the bloss. *Tips* oblong; with 4 valves; fixed sideways to the threads.

POINT. *Seed-bud* buried within the root. *Shafts* 6; thread-shaped; as long as the chives. *Summits* reflected; channelled.

S. VESS. *Capsule* of 3 lobes; connected on the inside by a seam; blunt; with 3 cells, opening inwards at the seams.

SEEDS many; nearly globular; wrinkled.

ESS. CHAR. *A sheath. Blossom* with 6 divisions; the tube rising from the root. *Capsules* 3; connected; inflated.

COL'CHICUM autumnale. Leaves flat, spear-shaped, upright.—

Stoerck.—Fuchf. 356, 357, the expanded blossom inferior to the other parts; cop. in Trag. 759, and J. B. ii. 649.—Blackw. 566.—

Dod. 460. 2, repr. in Ger. em. 157. 1.—Ger. em. 157. 2, cop. in Pet. 67. 2.—Tourn. 181, and 182.—H. ox. iv. 3. 1.—Ger. 127. 1 and 2.

Flowers in September, produces its fruit in the following spring, and ripens it in summer. LINN.—*Bloss.* pale purple, soon wither. In the spring several spear-shaped leaves arise, with generally 1 or 2 as long as the rest, but only $\frac{1}{4}$ as wide, being a kind of flower-leaves to the seed-vessel. *Capsule* large, somewhat egg-shaped, with 3 very blunt angles. Mr. WOODWARD.—*Bloss.* tube 3-cornered; segments rather unequal. *Tips*, with a fleshy glandular substance between the lobes. *Dust* orange-coloured. *Shafts* reaching down to the root. *Seed-bud* at the root surrounded by the rudiments of the future leaves. The seeds lie buried all winter within the root, in spring they grow up on a fruit-stalk, and are ripe about the time of hay harvest. May not the very great length of the shafts account in some measure for the delay in the ripening of the seeds? As this plant blossoms late in the year, and probably would not have time to ripen its seeds before the access of winter, which would destroy them, providence has contrived its structure such, that this important

portant office may be performed at a depth in the earth, out of reach of the usual effects of frost: and as seeds buried at such a depth, are known not to vegetate, a no less admirable provision is made to raise them above the surface when they are perfected, and to sow them at a proper season. WITH.

Meadow Saffron.

Meadows, low as well as mountainous, in rich soil in the west and north of England. [Near Bury. Mr. WOODWARD.—Derby. Mr. WHATELY.—In orchards on the borders of Malvern Chase, Worcestershire. Mr. BALLARD.—On the meadows bordering the Severn, Worcestershire. ST.—Wellington, and Hales Owen, Shropshire. WITH.] P. Aug. Sept.

This is one of those plants that upon the concurrent testimony of ages was condemned as poisonous; but Dr. Storck, of Vienna, hath taught us that it is an useful medicine. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup, by the addition of sugar or honey, is found to be a very useful pectoral and diuretic. It seems in its virtues very much to resemble Squill, but is less nauseous and less acrimonious, tho' more sedative. WITH.—In a pasture in which were several horses, and eaten down pretty bare, the grass was closely cropped even under the leaves, but not a leaf bitten. Mr. WOODWARD,

Order V.

POLYGYNIA; MANY POINTALS.

495. ALIS'MA. Thrumwort.

EMPAL. *Cup* 3 leaves; egg-shaped; concave; permanent.

BLOSS. *Petals* 3; circular; large; flat; greatly expanded.

CHIVES. *Threads* 6, awl-shaped; shorter than the blossom.

Tips roundish.

POINT. *Seed-buds* more than 5. *Shafts* simple. *Summits* blunt.

S. VESS. *Capsule* compressed.

SEEDS solitary; small.

ESS. CHAR. *Empal. leaves* 3. *Petals* 3. *Seeds* several.

ALIS'MA

ALIS'MA *Plantago*. Leaves egg-shaped, pointed. *greater*
Fruit with 3 blunt corners.—

Fl. dan. 561.—*Trag.* 226. 2, *cop. in Lonic.* 142. 4.—*Fuchf.* 42,
cop. in J. B. iii. 737. 3.—*Matth.* 482.—*Dod.* 606. 1, *repr. in*
Lob. obs. 160. 1, *Ger. em.* 417. 1, *and cop. in Park.* 1245. 1.—
Ger. 337. 1, *cop. in Pet.* 43. 6.

Root roundish, white. *Leaf-stalks* longer than the leaves, broader
at the base. *Leaves* with 7 ribs, keeled, smooth, very entire. *Stalk*
2 or 3 feet high. *Panicle* terminating. *Fruit-stalks* in whorls. *Flowers*
in rundles, purplish. *Flower-scales* short, pointed, at the origin
of the fruit-stalks. *Fruit* blunt, 3-cornered, depressed. LYONS.
—*Stems and branches* with 3 blunt corners. *Leaves* with 8 ribs, 2
of them near each edge. *Empal.* leaves scored, bent back. *Pointals*
numerous. *Bloss.* fully expanded about 4 in the afternoon; *petals*
ragged at the end, shrivelling, pale reddish purple, yellow at the
base. *Threads* fixed to the receptacles. *Tips* yellow. *Receptacle*
glandular. *Capsules* about 18. WITH.

Water Plantain.

In watery places, banks of pools, lakes, and rivers.

P. July, (and August. ST.)

Goats eat it. Horses. Cows, Sheep, and Swine refuse it.

β. RAY and HUDS.

narrow leav'd

Ger. 337. 2.—*Pet.* 43. 7.

γ. HUDS. *Loes.* 62, not examined.

Bog about a mile from Sudbury, Essex.

ALIS'MA *Damasonium*. Leaves heart-oblong. *star-headed*
Pointals 6. *Capsules* awl-shaped.—

Lob. obs. 160. 2, *repr. in Ger. em.* 417. 2, *and cop. in Park.*
1245. 3.

Leaves with net-like veins. *Leaf-stalks* flat, long. *Stem* naked.
Flowers in rundles lateral and terminating. *Capsules* large, awl-
shaped, straddling in a star-like form. MR. WOODWARD. ST.—
Of a hard texture, and so closely united at the base as to appear like
a single fruit. *Blossoms* white. ST.

Ditches and stagnant waters. [Rumford. MR. PITCHFORD.]

P. June.—Aug.

ALIS'MA *natans*. Leaves egg-shaped, blunt. *Fruit- creeping*
stalks solitary.—

Capsules generally 8. Several *flowers* from the same sheath. LINN.
—The *leaves* under water strap-shaped, those which float on the
surface egg-shaped. HUDS.—*Fruit-stalks* very long. *Flowers* large.
MR. WOODWARD.

Lakes

Lakes and wide ditches. Great Lake below the old castle at Llanberrys. [South end of the lake of Bala, Merionethshire. Mr. Wood.] P. July. Aug.

leffer ALIS'MA *ranunculoi'des*. Leaves strap-spear-shaped. Fruit globular, scurfy.—

Fl. dan. 122.—*J. B.* iii. 788.—*Ger. em.* 417. 3, *cop. in Park.* 1245. 2, and *Pet.* 43. 3.

In places where the water is nearly dried up the *stem* is from 2 to 6 inches high, hardly longer than the leaves, and some of the flowering *branches* trailing; but, where there is plenty of water, the *stem* is from 1 to 2 feet high, upright, naked, the *rundles* numerous, proliferous, and the *root-leaves* not greatly exceeding the leaf-stalks in breadth. Mr. WOODWARD.—*Blossom* bluish white, opens about noon.

Wet turfy bogs. [Giggleswick Tarn, Yorksh. CURT.—Boggy meadows, common. Bungay, Suffolk. Ellingham Fen, Norf. Mr. WOODW.—Between Burton and Derby. Mr. WHATELY.]

P. June.—Sept.

Class VII.

H E P T A N D R I A.

VII. C H I V E S.

Order I.

MONOGYNIA; I. POINTAL.

496. TRIENTA'LIS. *Cup* 7 leaves. *Bloss.* with 7 divisions; flat. *Berry* 1 cell; dry.

Order I.

MONOGYNIA; I. POINTAL.

496. TRIENTA'LIS. Wintergreen.

EMPAL. *Cup* 7 leaves; spear-shaped; tapering; expanding; permanent.

BLOSS. starry; flat; of 1 *petal* with 7 divisions, slightly adhering at the base. *Segments* egg-spear-shaped.

CHIVES. *Threads* 7; hair-like; growing on the claws of the blossom; standing wide; as long as the cup. *Tips* simple.

POINT. *Seed-bud* globular. *Shaft* thread-shaped; as long as the chives. *Summit* knobbed.

S. VESS. *Berry* not unlike a capsule; dry; globular; of 1 cell; coat very thin; opening by various seams.

SEEDS several; angular. *Receptacle* large; hollowed out to receive the seeds.

Ess.

ESS. CHAR. *Empalement 7 leaves. Blossom with 7 divisions; equal; flat. Berry juiceless.*

OBS. Though 7 is the general number, it is not invariably so. The fruit is a dry berry, not opening with valves like a capsule.

Chickweed TRIENTA' LIS *europæ'a*. Leaves spear-shaped; very entire.—

Fl. dan. 84.*—*C. B. pr.* 99, *cop. in Pet.* 62. 13, and *Park.* 509.

5. a.—*C. B. pr.* 100, *cop. in H. ox.* xii. 10. row 3. 6, and *Park.* 509. 5. 6.

Blossoms close on the approach of rain, when the flowers hang down. LINN.—*Stem* single, about 5 inches high. *Leaves* 5 to 7, terminating the stem. *Flowers* commonly 2, on long fruit-stalks. LIGHTF.—*Terminating leaves* sometimes 8, finely, but obscurely serrated, smooth; 1 or 2 smaller ones scattered on the upper part of the stem. ST.—*Leaves* sometimes oval-spear-shaped. MR. WOODWARD.—*Blossoms* white, on long fruit-stalks.

Woods and turfy heaths in the northern counties. Near Bingley, Yorkshire, plentifully. Moorish ground on the sides of the Highland mountains. P. June. July.

Horses, Goats, and Sheep eat it. Cows refuse it.

β. HUDS. *Pyrola alpinæ flore brasiliæna*. R. syn. 286.

Near Gisbury, in Cleveland. RAY.

* But considerably larger than it is usually found in this country. Mr. Woodward.

Class VIII.

O C T A N D R I A.

VIII. C H I V E S.

Order I.

MONOGYNIA; I. POINTAL.

* Flowers perfect.

† Acer.

507. EPILO'BIUM. Blossom 4 petals. Cup 4 leaves;
superior. Capsule 4 cells. Seeds
feathered.
519. CHLO'RA. Bloss. with 8 clefts. Cup 8 leaves;
beneath. Capsule 1 cell, 2
valves. Seeds many.
523. VACCIN'IUM. Bloss. 1 petal. Cup with 4 teeth;
superior. Chives growing on
the receptacle. Fruit a berry.
524. ERI'CA. Bloss. 1 petal. Cup 4 leaves; be-
neath. Chives growing on the
receptacle. Fruit a capsule.

† Andromeda Daboëcia.

** Flowers imperfect.

† Monotropa hypopithys.

526. DAPH'NE. Cup with 4 equal clefts; resem-
bling a blossom and inclosing
the chives. Berry pulpy.

*Order II.**DIGYNIA; II. POINTALS.*

607. CHRYSOSPLE'NIUM *Blofs. o. Cup superior. Capsule*
2-celled, 2-beaked.

† Scleranthus annuus. Scleran. perennis. Chlora perfoliata.
Polygonum pensylvanicum.

*Order III.**TRIGYNIA; III. POINTALS.*

537. POLYG'ONUM. *Blofs. o. Cup with 5 divisions.*
Seed 1; naked.

*Order IV.**TETRAGYNIA; IV. POINTALS.*

542. ADOX'A. *Blofs. with 4 or 5 clefts; supe-*
rior. Cup 2 leaves. Berry with
4 or 5 feeds.

543. ELATI'NE..... *Blossom 4 petals. Cup 4 leaves.*
Capsule 4 cells.

541. PA'RIS. *Blofs. 4 petals; awl-shaped. Cup*
4 leaves. Berry 4 cells.

† Myriophyllum verticillatum.

Order I.

MONOGYNIA; I. POINTAL.

507. EPILOBIUM. Willowherb.

EMPAL. *Cup* 4 leaves; superior. *Leaves* oblong; tapering; coloured; deciduous.

BLOSS. *Petals* 4; circular; expanding; broadest on the outer part; notched at the end.

CHIVES. *Threads* 8; awl-shaped; alternately shorter. *Tips* oval; compressed; blunt.

POINT. *Seed-bud* beneath; cylindrical; very long. *Shaft* thread-shaped. *Summit* with 4 clefts; thick; blunt; rolled back.

S. VESS. *Capsule* very long; cylindrical; scored; 4 cells, 4 valves.

SEEDS numerous; oblong; crowned with a feather. *Receptacle* very long; 4-cornered; loose; limber; coloured.

ESS. CHAR. *Empalement* with 4 clefts. *Petals* 4. *Capsule* oblong; beneath. *Seeds* feathered.

OBS. In some species the chives and pointals are upright, in others they lean towards the lower side of the blossom.

* *Chives declining.*

EPILOBIUM *angustifolium*. Leaves scattered, *Rosebay* strap-spear-shaped. Flowers unequal.—

Fl. dan. 289.—*Curt.* ii. 18.—*Park. par.* 267. 6.—*Ger. em.* 477.

7, *cop. in Pet.* 52. 10.—*J. B.* ii. 907. 1, *cop. in H. ox.* iii. 11.

row 1. 1. f. 3.—(*Clus.* ii. 51. 3, *repr. in Dod.* 85. 2, *Lob. obs.*

186. 1, *Ger. em.* 477. 8, and *cop. in Park.* 548. 1, and *H. ox.*

iii. 11. row 2. 2, is variety α the *Lyfimachia Chamænerion dicta*

C. B.)

Leaves at their first appearance rolled in at the edge. *Petals* entire.

Threads approaching the shaft at the base. *Pointal* declining. LINN.

Petals, the 2 lowermost somewhat remote from each other. *Leaves*,

the lateral nerves on the under surface, nearly at right angles with

the mid-rib. SCOP. MR. WOODWARD.—*Threads* nearly of equal

length, at first bending down, finally becoming nearly upright.

CURT.—*Blossoms* purplish rose-colour, or white. *Leaves* slightly toothed. *Chives* nearly equal. *Receptacle* full of honey. ST.

E. angustif. var. β. LINN.—*Lyfimachia Chamænerion dicta latifolia.*
C. B. pin. 245. BOEHM. ST.—*Chamænerion.* Ger. em. 477. ST.

Rosebay Willowherb.

Woods and hedges. Meadows near Sheffield; Alton, Hants; Maize Hill, beyond Greenwich; many places in Scotland; Grass Wood, near Kilnsay, Yorkshire. CURT.—[And near Berkhamstead, Herts, plentifully. Mr. WOODWARD.] P. July.—Sept.

Goats are extremely fond of it. Cows and Sheep eat it. Horses and Swine refuse it.—The *Phalæna Porcellus*, and *Sphinx Elpenor*, are found upon it.—The suckers of the root are eatable. An Infusion of the plant has an intoxicating property, and the Kamtschatales brew a sort of ale from the pith, and from the ale make vinegar. The down of the seeds also mixed with cotton or furr has been manufactured into stockings and other articles of cloathing.

* * *Chives* upright, regular; petals cloven.

largeflowered

EPILO'BIIUM *hirsutum.* LINN. SCHREB. *sp. fl. lips.* in consp. LIGHTF. CURT. Mr. WOODWARD. ST.—*Leaves* opposite, spear-shaped, serrated, running down and embracing the stem. LINN.—*Leaves* running down the stem, the lower ones opposite. Stem branched. HUDS.—*Leaves* egg-spear-shaped, half-embracing the stem, hairy. Stem very much branched. Root creeping. CURT.

Fl. dan. 326.—*Curt.* ii. 20.—*Fuchs.* 491, *cop.* in *J. B.* ii. 905. 3, and *Lonic.* i. 135. 2.—*Ger.* 386. 3.—*Ger. em.* 476. 6, *cop.* in *Pet.* 52. 11, and *H. ox.* iii. 11. 3.

Plant somewhat hairy. Stem cylindrical, with expanding soft hairs. *Leaves* unequally serrated, somewhat downy, running a little way down the stem, the middle of the base being above the sides of the base. *Branches* opposite. *Bunches* terminating. *Flowers* on fruit-stalks, solitary. *Floral-leaf* spear-shaped, sitting, serrated. *Seed-bud* woolly. *Petals* slightly cloven. LINN.—*Stems* branched, downy. *Leaves* downy. *Bloss.* flesh-coloured, or purple. HUDS.—*Leaves* with soft hairs on both sides; serratures hooked, blunt. *Branches* and *fruit-stalks* from the bosom of the leaves. *Empal. leaves* united at the base by means of a glandular receptacle. *Petals* twice as long as the empalement, inversely heart-shaped, of a fine rose-colour, claws white with white cores spreading upwards. *Threads* white, the longest not half the length of the petals. *Tips* and *anthers* white. *Seed-bud* 4-cornered, the corners purple and woolly. *Shaft* crooked; white. *Summit* white. *Capsule* with 4 purple corners, and thickset with soft short hair. *Seeds* nearly egg-shaped. WIRN.—*Empal.*

—*Empal.* of 1 leaf, with 4 deep divisions. CURT. ST.—Stem upright, flattened at the insertion of the branches. Upper branches generally solitary, alternate. Leaves oblong-spear-shaped, the uppermost alternate. Chives, 4 of them nearly as long again as the other 4. Tips oblong, after shedding their dust bowed. ST.

E. ramosum. HUDS.*—*Chamaenerion floribus ex alis sessilibus, foliis lanceolatis, dentatis villosis.* BOCH. LIPS. n. 298, acknowledged to be *E. hirsutum* α of LINNÆUS, in SCHREBER'S *Linnaean conspectus* at the end of his *spic. flor. lips.*—(*Chamaenerion obscurum* SCHREB. p. 147, referred to by Mr. HUDSON, is a distinct species.) ST.

Great Hairy Willowherb. Codlings and Cream.

Moist hedges, ditches, and banks of brooks, rivers, and lakes.

P. July.

The top shoots have a very delicate fragrance resembling scalded codlings, whence one of its names, but so transitory, that, before they have been gathered 5 minutes, it is no longer perceptible.

Horses, Sheep, and Goats eat it. Cows are not fond of it. Swine refuse it.

EPILO'BIIUM *villosum.* CURT.—Leaves spear-shaped, serrated, almost running down the stem, the lower opposite. Stem mostly simple. HUDS.—Leaves sitting. Stem woolly. SCHREB. ST.—Leaves oblong-spear-shaped, toothed, downy. Stem cylindrical, woolly. CURT. ST.

Curt. ii. 21.†—*Fl. dan.* 347.—*H. ox.* iii. 11. 4, *cop. in Pet.* 52.

12.—(*Ger.* 387. 8, is a different species.)

Stem very rarely branched, unless it has received some injury. Flowers small, purple. HUDS.—Lower-leaves opposite, the upper alternate, by no means running down the stem, but sitting, or rather fixed to an exceedingly short leaf-stalk, rounded at the base, with distant serratures, the serratures smaller and much more widely separated than those of *E. hirsutum*; woolly on each side, very soft and not so much pointed. Seed-bud woolly, with expanding soft hairs, but at last becoming bare. SCHREB. ST.—Root fibrous, not creeping. Stem sometimes branched. Leaves soft, teeth glan-

* Mr. HUDSON is not to be justified in thus altering the LINNÆAN nomenclature, and applying the name, which LINNÆUS had given to this, to another species. MR. WOODWARD. ST.—Mr. HUDSON may alledge, that in the *Fl. suec.* the large-flowered species is made a variety of the small-flowered, but the description there subjoined he will find to belong to the large-flowered species, and the error of the *Fl. suec.* he will see corrected in the *Sp. pl.* ST.

† But represented too hairy. MR. WOODWARD. ST.

dular, whitish underneath. *Petals* inversely heart-shaped. CURT. ST.—*Stem* cylindrical also at the insertion of the branches. *Leaves* in some plants nearly all opposite, in others nearly all alternate. *Fruit-stalks* longer than the empalement. *Blossoms* flesh-coloured, generally closed. *Shaft* purple. *Summits* 4, white, rolled back. ST.

E. parviflorum. ST. in Bot. Arr. ed. i. Schreb. spic.—*E. hirsutum*. P. Linn.—*hirsutum*. Huds.—*Lyfimachia siliquosa sylvestris hirsuta flore minore*. J. B. hist. ii. p. 906.—*Wood Willowherb*. Ger. em. 479. n. 12.

Watery places, and sides of ditches and rivulets. P. July. Aug.

smooth-leaved

EPILO'BIIUM *montanum*. Leaves opposite, egg-shaped, toothed. LINN.—*The upper alternate*. HALL. Mr. WOODWARD. WITH.

Curt. iii. 33.—Walc.—Clus. ii. 51. 2, repr. in Dod. 85. 1, Lob. obs. 185. 4, Ger. em. 479. 11, and cop. in Park. 548. 3, and Pet. 53. 1.

Stem cylindrical, upright, reddish, very soft, somewhat downy. *Leaves* smooth, finely toothed, very soft, especially underneath, with a down just perceptible. LINN.—*Petals* inversely heart-shaped, pale purple. CURT.—*Leaves* spear-egg-shaped. *Empalement* slightly hairy on the outside and at the edges. *Petals* veined with deeper purple lines. *Chives* lying mostly on one side of the shaft, which is bowed upwards. *Shaft* reddish. WITH.—*Leaves*, teeth unequal, somewhat hooked, pointing towards the end of the leaf; with a just perceptible downiness on both surfaces. *Petals* sometimes white. ST.

Woods, hedge rows, shady lanes, and moist meadows, in a gravelly soil, and sometimes on walls in courts. B. July,

Goats eat it. Horses are not fond of it.

2. Three and 4 leaves at a joint. REICH. CURT. WITH.

spurious

EPILO'BIIUM *du'bium*. CURT. cat. n. 567.

square-stalked

EPILO'BIIUM *tetrago'num*. Leaves spear-shaped, finely toothed, the lowermost opposite. Stem 4-cornered. LINN.—*Summit* very entire. CURT.

Curt. iii. 27.—Ger. 387. 3 and 7.?

The young *leaves* have livid spots, and the tender top of the plant hangs down. *Summit* very entire. WILLICH.—All the *leaves* sometimes strap-spear-shaped. Mr. WOODW.—*Stem* 4-cornered, especially at the base, upwards rounder, but still angular, smooth, and sometimes slightly downy. *Branches* alternate. *Leaves* egg-spear-shaped, sharp-pointed, serrated with pointed teeth. POLLICH.—*Stem* not creeping. *Stem* upright, very much branched. *Leaves* smooth

smooth, serrated, the lower spear-shaped, the upper strap-spear-shaped. *Empalement* with 4 divisions. CURT. ST.

Marshes, and sides of rivulets and ditches. P. July.

[Near Bungay, Suffolk; and Alconbury, Huntingdonshire. Mr. WOODWARD.]

EPILOBIUM *palustre*. Leaves opposite, spear-shaped, very entire. Petals notched at the end. Stem upright. LINN.—*Leaves imperfectly toothed*. ST.

Ger. 386. 4, *cop. in Pet.* 53. 4.—(*Ger. em.* 477. 8, *cop. in H. ox.* iii. 11. row 2. 2, is a variety of *E. angustifolium*.)

Leaves imperfectly toothed. *Petals* reddish, nicked, not cloven half way down. *Pods* on fruit-stalks. LINN.—*Summit* thickish club-shaped, slightly cloven at the point into 4. LEERS.—*Stem* cylindrical, smooth or downy, a foot high. *Leaves* sitting, the lower opposite, the upper alternate. *Summit* with generally 4 clefts. RELH.—*Summit* thick, blunt, yellowish white. ST.—*Upper-leaves* alternate, varying extremely in breadth. Short leafy branches rise from the bosom of the leaves. Mr. WOODWARD.—*Leaves* sitting, smooth. *Empalement* a little hairy on the outside. *Petals* notched at the end, reddish purple, with deeper purple streaks. *Tips* at the time of shedding their dust, adhere firmly to the summits so as hardly to be separated without violence, but before and after that time they do not touch it. WITH.

Marshes, bogs, and sides of lakes. P. July.

Horses, Sheep, and Goats eat it. Swine refuse it.

EPILOBIUM *alpinum*. Leaves opposite, egg-spear-shaped, very entire. Pods sitting. Stem creeping.—

Fl. dan. 322.—*Lightf.* 10. 1, at p. 242.

Stem trailing, hardly a span high. LINN.—*Afterwards* upright, bearing 1 or 2 flowers at the top. *Leaves* quite smooth. *Pods* quite smooth, 4 or 5 times longer than the leaves. LIGHTF.—*Leaves* sometimes slightly toothed. Mr. WOODWARD. ST.

Alpine rivulets. Cheviott Hills, Northumberland; near Settle, Yorkshire. Ben Buy, Ben Lomond, and near Little Loch Broom, Rossshire. Mountains in Breadalbane and Corry Yaal, in Glencoe. [Moist rocks about Buckbarrow Well. CURT.] P. July. Aug.

519. CHLO'RA. Yellow-wort.

EMPAL. *Cup* 8 leaves; permanent. *Leaves* strap-shaped; open.

BLOSS. 1 *petal*; falver-shaped. *Tube* shorter than the empalement, inclosing the seed-bud. *Border* with 8 divisions; segments spear-shaped; longer than the tube, (lapping over each other. WITH.)

CHIVES. *Threads* 8; (awl-shaped. WITH.) very short; fixed to the mouth of the tube. *Tips* strap-shaped; upright; shorter than the segments of the blossom.

POINT. *Seed-bud* egg-oblong. *Shaft* thread-shaped; as long as the tube. *Summits* 4; oblong; cylindrical.

S. VESS. *Caps.* egg-oblong; of 1 cell; somewhat flattened; with 2 furrows; 2 valves; the sides of the valves bowed inwards.

SEEDS numerous; very small.

ESS. CHAR. *Empal.* 8 leaves. *Bloss.* 1 *petal*; with 8 clefts. *Capsule* 1 cell, 8 valves, containing many seeds.

perforated CHLO'RA *perfoliata*. Leaves perforated.—

Walc.—Barr. 315 and 316.—J. B. iii. 355, cop. in H. ox. v. 26. row 1. 1. and 2. f. 1, and Pet. 55. 8.—Clus. ii. 180, repr. in Lob. obs. 219, Ger. em. 547. 2, and cop. in Park. 272. 4, and Ger. 437. 2.

Stem and *leaves* sea-green. SCOP. RELHAN. ST.—*Empal.* leaves narrow, spear-shaped. *Bloss.* gold coloured. *Summits* 2. RELH.—*Stem* from 3 inches to 3 feet high. *Root-leaves* oval, sitting, spread in form of a star; *lowest stem-leaves* oval, spear-shaped, sitting, the rest perforated, oval-spear-shaped. *Flowers* in a kind of rundle, of 3 rays, encompassed by the uppermost leaf, the middle one bearing a single flower without any leaves; the outer ones terminated by a leaf similar to the stem-leaves, from which arises a rundlet supporting 1 or more flowers. *Empal.* sometimes equal to, sometimes longer, and sometimes shorter than the blossom; *leaves* awl-shaped. Mr. WOODWARD.—*Chives* 6 to 9. Mr. HOLLEFEAR.—*Root-leaves* inversely egg, and spear-shaped; *stem-leaves* hollow, each as if composed of 2 spear or heart-shaped leaves, running into each other at the base. *Stem* and *branches* terminated by solitary flowers, with a lateral branch springing on each side from their base. *Empal.* leaves sometimes 10. *Blossom*, segments sometimes 9, slightly nicked at the point. *Chives* sometimes 9 and 10, shorter than the blossom. *Shaft* cloven, the arms forked at the

the end. *Tips* hardly twisted. *ST.*—*Stem* cylindrical, smooth. *Flowers* in a sort of rundle, terminating. *Empal. leaves* pointed, sometimes 9. *Bloss. tube* skinny; *segments* sometimes 9, deep yellow, with a milky juice. *Chives* sometimes 9, yellow. *Tips* oblong. *Dust* yellow. *Seed-bud* oblong, longer than the tube of the bloss. *Shaft* thickest towards the top, cloven, yellow. *Summits* 2, shaped like a horse shoe, yellow. *Capfule* oblong, with 4 blunt corners. *Seeds* egg-shaped. *WITH.*

Mountainous meadows and pastures, in a calcareous soil. [Near Bungay, Suffolk. *MR. WOODWARD.*—Side of Malvern Chace, Worcestershire. *MR. BALLARD.*—Edge of the Ridd Cliff, Worcesterfh. *ST. Ranton Abby, Staffordfh. WITH.]* A. June. *ST.* July.

523. VACCIN'IUM. Whortle.

EMPAL. *Cup* very small; superior; permanent.

BLOSS. 1 *petal*; bell-shaped; with 4 clefts. *Segments* rolled backwards.

CHIVES. *Threads* 8; simple. *Tips* with 2 horns; opening at the point; and furnished with 2 expanding awns, which are fixed to the back.

POINT. *Seed-bud* beneath. *Shaft* simple; longer than the chives. *Summit* blunt.

S. VESS. *Berry* with 4 cells; globular; with a hollow dimple.

SEEDS few; small.

ESS. CHAR. *Empal.* superior. *Blossom* 1 *petal.* *Threads* inserted into the receptacle. *Berry* 4 cells; many seeds.

Obs. In some species all the parts of fructification are increased $\frac{1}{2}$ th in number. The *empalement* in *V. myrtillus* is very entire, in most of the rest with 4 clefts. The new blown *blossom* is hardly divided, but in the *V. Oxycoccus* it is rolled back to the base.

* *Leaves* annual, or deciduous.

VACCIN'IUM *Myrtillus.* Fruit-stalks with 1 flower. *Bilberry*
Leaves serrated, egg-shaped, deciduous. *Stem* angular.—

Sheldr. 18.—*Matth.* 231.—*Dod.* 768. 2, repr. in *Lob. obs.* 546.

2, *Ger. em.* 1415. 1, and cop. in *Park.* 1456. 1.—*Blackw.* 463.

Chives 10. *Bloss. segments* 5. *Capfule*, cells 5. *Stem* and branches 4-cornered. *Leaves* alternate, serratures blunt. *Berries* black.

LINN.—*Bloss.* nearly globular, but a little flattened at the base; pale reddish purple; *mouth* very small, with 5 small reflected teeth.

WITH.—*Bloss.* reddish white. *Berries* bluish black.

Black

Black Worts. Black Whortle-berries. Hurtle-berries. Bilberries. Wind-berries. Blea-berries.

Woods and heaths. [Porland Heath. Mr. CROWE.—Rocks above Great Malvern, Worcestershire. Mr. BALLARD.] S. Apr. May.

The berries are very acceptable to children, either eaten by themselves, or with milk, or in tarts. The moor game live upon them in the autumn. The juice stains paper or linen purple.

Goats eat it. Sheep are not fond of it. Horses and Cows refuse it.

great VACCIN'IUM *uliginosum*. Fruit-stalks with 1 flower. Leaves very entire, inversely egg-shaped, blunt, smooth.

Fl. dan. 231.—*Clus.* i. 62. 1, repr. in *Ger. em.* 1416. 6, and cop. in *Park.* 1456. 2.

Stems generally a foot high. Leaves when young fringed at the base, flat. Berries blue, with 4 slight angles, with a white pulp. LINN.—Leaves with a net-work of veins underneath, sometimes slightly dented at the end, often tinged with red. Mr. WOODW.

Great Bilberry Bush. [Rash-berries. Mr. WOODWARD.]

Moistish woods, heaths, and pastures, and tops of mountains. Between Hexham and Penrith. Forest of Whinfield, Westmorel. Near Julian's Bower, Highland mountains. [Near Gambleby, Cumberland. RAY. Mr. WOODWARD.] S. April. May.

Children sometimes eat the berries; but in large quantities they occasion giddiness, and a slight head-ach, especially when full grown, and quite ripe. Many vintners in France are said to make use of the juice to colour their white wines red.

Horses, Cows, Sheep, and Goats eat it. Swine refuse it.

* * Leaves evergreen.

red VACCIN'IUM *Vitis-idea*. Bunches terminating, nodding. Leaves inversely egg-shaped; edge very entire and rolled back, dotted underneath. LINN.—Edge often obscurely serrated towards the end. ST.

Fl. dan. 40.—*Dod.* 770. 1, repr. in *Ger. em.* 1415. 2, and cop. in *Park.* 1456. 4. leaves the best.—*J. B.* i. a. 522.

Is seldom found in blossom. CURT.—Stems obliquely ascending, scarcely a span high, cylindrical. Leaves alternate. Berries red. LINN.—Leaves with deep veins above, which are equally prominent underneath, some much smaller leaves intermixed with the rest. Mr. WOODWARD.—Floral-leaves and empalement coloured. Threads very short, white, woolly. Tips red, longer than the threads, of 2 cells, each of which bears a yellowish tube at the point. Dust yellow. Shaft green. Receptacle glandular. WITH.—

Leaves

Leaves slightly dented at the end, the mid-rib terminating in a roundish knob, pale underneath, dots dark brown, prominent. *Stems* and *leaf-stalks* downy. ST.—*Blossoms* reddish white.

Red Whortle-berries.

Mountainous parts of Derbyshire, Staffordshire, and Yorksh. RAY.—Dry places in heaths, woods, and tops of mountains. LIGHTF.—And marshy heaths. HUDS.—[Top of Skiddow, and Ingleborough. MR. WOODW.—Cannock Heath, Staffordshire, in a dry gravel. ST.] S. March. April.

The berries are acid, and not very grateful, but they are eaten by the Laplanders, and by the country people, and are sent in large quantities from W. Bothnia to Stockholm for pickling. LINN.—They are also made into tarts, rob, and jelly.

Goats eat it. Cows, Sheep, and Horses refuse it.

VACCINIUM *Oxycoc'cos*. Leaves very entire, *Cran-berry* rolled back at the edge, egg-shaped. Stems creeping, thread-shaped, without hairs.—

Fl. dan. 80, *cop. in Blackw.* 593.—*Lob. obs.* 547. 3.—*J. B. i. a.* 227. 2.—*Dod.* 770. 2, *repr. in Ger. em.* 1419, and *cop. in Park.* 1229, and *Ger.* 1367.

Bunch very short. *Fruit-stalks* very long. *Floral-leaves* 2, alternate. *Bloss.* segments rolled back. LINN.—*Leaves* sometimes egg-spear-shaped, alternate, on short fruit-stalks. MR. WOODW.—Thick, grey underneath. *Fruit-stalks* red, and semi-transparent. *Flowers* nodding, generally 1 on a fruit-stalk. *Empal.* coloured. *Blossom*, segments oblong, bent back as in the flower *Solanum Dulcamara*, which it much resembles in form, falling off as if distinct petals. *Threads* spear-shaped, brown, hairy at the edge. *Tips* orange-coloured, of 2 cells, each ending in a hair-like tube open at the end. *Shaft* red, tubular. *Summit* an open hole. *Empalement* smooth, but fringed at the points. *Fruit-stalks* downy, crooked at the end. *Floral-leaves* about half way up near each other. *Bloss.* deep flesh-colour. *Berry* pale red, mottled with purple dots, when fully ripe purplish red. WITH.

Cran-berries. *Moss-berries.* *Moor-berries.* *Fen-berries.* *Marsh Whorts.* *Marsh Whortle-berries.* *Corn-berries.*

Peaty bogs, near Glastenbury. [Sutton Coldfield Park, Warwickshire. RAY. ST.—Derlingham Moor, Norfolk. MR. CROWE.—In the North, frequent. MR. WOODWARD.] S. May. June.

The berries have an agreeablisth acidity, but are seldom eaten raw. They are made into tarts, which are much esteemed, but on account of a very peculiar flavour are disliked by some. They may be kept for several years by wiping them clean, and then closely corking

corking them up in dry bottles; but the best method of preserving them is, to fill up the interstices with pure spring water. ST.—At Longtown, in Cumberland, 20 or 30l.'s worth are sold by the poor people each market day, for 5 or 6 weeks together. LIGHT.

524. ERI'CA. Heath.

EMPAL. Cup with 4 leaves; egg-shaped; upright; coloured, permanent.

BLOSS. 1 petal; bell-shaped; with 4 clefts; often distended.

CHIVES. Threads 8; hair-like; standing on the receptacle. Tips cloven at the point.

POINT. Seed-bud roundish. Shaft thread-shaped; straight; longer than the chives. Summit resembling a little crown; with 4 clefts, and 4 edges.

S. VESS. Capsule roundish; inclosed; smaller than the cup; with 4 cells, and 4 valves.

SEEDS numerous; very small.

ESS. CHAR. Empal. 4 leaves. Blossom 4 clefts. Threads inserted into the receptacle. Tips cloven. Capsule 4 cells.

OBS. In some species the cup is double. The figure of the blossom varies between egg-shaped and oblong. The chives in some species are longer, and in others shorter than the blossom. LINN.—The summit also varies. REICH.

* Tips awned.

common ERI'CA *vulgaris*. Tips awned. Blossom bell-shaped, nearly equal. Empalement double. Leaves opposite, arrow-shaped. LINN. *sylt. veg.*—Leaves tiled, in 4 lines. Hort cliff. ST.—Inner empal. longer than the bloss. ST.*

Curt. iv. 50.—Walc.—Fl. dan. 677.—Matth. 152.—Fuchs. 254, cop. in Trag. 952, and Dod. 767. 1, which repr. in Ger. em. 1380. 1, and cop. again in Park. 1432. 5.—Lonic. i. 37. 1.—Ger. 1196. 1 and 2.—Park. 1480, 1.

Leaves tiled, in 4 lines, opposite, nearly 3-edged, keel channelled, fixed above the base, base pointed, cloven. Bloss. cloven into 4, more than half way down, of the size and appearance of the empalement. Shaft ascending, generally projecting beyond the blossom. LINN.—Little branches square. Leaves nearly egg-shaped, bluntish,

* Calyce interiore corolla longiore. ST.

bluntish, with a whitish furrow, slightly hairy at the edge. *Flowers* solitary, on fruit-stalks, from the sides of the branches, slightly nodding, opposite, but generally pointing one way, giving the branches the appearance of long bunches, but leafy shoots will be always found at the end. *Fruit-stalks* shorter than the flower, with a floral-leaf at the base. *Floral-leaves* roundish arrow-shaped, hollow, woolly at the edge, 2, and sometimes 3 at the base of the flower, of the same shape as those of the outer empalement. *Outer empal.* often tinged with red, woolly without; the 2 outer somewhat larger, egg-shaped, slightly keeled; the 2 inner roundish-egg-shaped, somewhat membranaceous. *Inner empal.* of 4 leaves, of the colour, and nearly of the same texture as the blossom, five times as long as the outer; *leaves* oval-oblong, concave, slightly adhering at the base, alternating with the segments of the blossom, open, after flowering approaching with the points bent in. We may here observe a curious instance of the gradual transition from the green herbaceous leaves of the stem, to the more delicate texture of the blossom. *Blossom* bell-shaped, flattened at the base, pale purplish rose-colour, whitish towards the base, divided 2-3ds of the way down; *segments* egg-shaped, blunt, equal, open. *Chives* just shorter than the blossom. *Threads* awl-shaped, doubled to and fro towards towards the point, white, or tinged with purple. *Tips* spear-shaped, brown, of 2 cells, cells opening at the sides by spear-shaped apertures nearly as long as the tips; *horns* awl-shaped, white, microscopically woolly, sometimes cloven, pointing downwards, nearly half as long as the tip. *Dust* white. *Seed-bud* orbicular, but thick in proportion to its breadth, reddish, with 8 perpendicular ridges beset with soft white hairs. *Shaft* slanting upwards, white, purplish above, longer than the empal. *Summit* purplish red. *Capsule* slightly depressed. *ST.*—*Branches* in opposite pairs. *Empalement* close to the base, 4 or 5 circular, concave, coloured leaves, fringed with soft hairs; and on the outside of these 2 or 3 others partly resembling these, and partly the leaves of the empalement. *Proper cup* coloured, so as in every respect to resemble the blossom. *Blossom* not distended, clefts 4 or 5. *Threads* flat, white, springing from small glandular substances at the base of the seed-bud, *Tips* reddish brown, with white horns at the base, *Shaft* white. *Summit* red. *Seed-vessel* inclosed by the proper cup. *WITH.*—*Stems* brown, woody.

Heath. *Ling.* *Griz*, in Shropshire. *Hather.* in Scotland.

Heaths and woods.

S. June.—Aug.

This plant, but little regarded in happier climates, is made subservient to a great variety of purposes, in the bleak and barren Highlands of Scotland. The poorer inhabitants make walls for their

their cottages, with alternate layers of heath, and a kind of mortar made of black earth and straw, the woody roots of the heath being placed in the center, the tops externally and internally. They make their beds of it, by placing the roots downwards, and the tops only being uppermost, they are sufficiently soft to sleep upon. Cabbins are thatched with it.—In the island of Ilay, ale is frequently made by brewing one part malt, and 2 parts of the young tops of heath; sometimes they add hops. Boethius relates, that this liquor was much used by the Picts. *Penn. tour. 1772. p. 229.*—Woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops of heath, comes out a fine orange colour. The stalks and tops will tan leather. In England besoms are made of it, and faggots to burn in ovens, or to fill up drains that are to be covered over. Sheep and Goats will sometimes eat the tender shoots, but they are not fond of them.—Cattle not accustomed to browse on heath, give bloody milk, but are soon cured by drinking plentifully of water. *Penn. tour. 1772. p. 229.* Horses sometimes refuse it. ST.—Bees extract a great deal of honey from the flowers; and, where heath abounds, the honey has a reddish cast.

downy-leaved β. LINN.—Leaves and branches covered with white downy hairs. WITH.

Erica vulgaris hirsuta. Gerard. 1380. Ray's syn. 471.—Erica myricæ folio hirsuta. Bauh. pin. 485.—Erica vulgaris hirsutior. Park. 1480. (WITH.)

whiteflower'd [Enville Common, Staffordsh. ST.—Birmingh. Heath. WITH.]
3. Blossoms white. ST.

cross-leaved E R I ' C A *Tetralix*. Tips awned. Blossoms egg-shaped. Shaft inclosed within the blossom. Leaves in fours, fringed. Flowers in heads.—

Curt. i. 12.—Fl. dan. 81.—(Ger. em. 1381. 4, not the plant, the flowers of each head not rising from the same point.)

Flowers incorporated. Blossom longer than the empalement. Leaves expanding. Blossoms twice a year. LINN.—Flowers in a kind of rundle, pale purple, or flesh-coloured, and sometimes white. RAY. ST.—Branches a little woolly. Leaves rolled back at the edges, white underneath; hairs glandular. *Empal.* leaves 4 to 6, fringed with long hairs, tipped with brownish red globules. *Bloss.* segments reflected, very shallow. Tips purple, with 2 white horns at the base. *Seed-bud* woolly, glandular at the base. WITH. ST.—Leaves sometimes in fives, leaf-stalks pressed close to the stem. Rundles terminating, without a fence. Flowers set close, pointing one way, inclining. *Fruit-stalks* downy, about the length of the blossoms. *Floral-leaves* 3 at the base of each flower on the upper side, of the same

same shape as the leaves of the empalement, the lowermost the largest, inserted about a line below the empalement; the 2 others, one on each side, rising from the base of the empalement. *Empal. leaves* oblong-strap-shaped, three times shorter than the blossom, woolly. ST.

Moist heaths. [Norfolk. MR. WOODW.—Hartlebury Common, Worcestersh. MR. BALLARD.—Worcestersh. and Staffordsh. ST.]

Goats eat it. LINN.—A Horse refused it. ST.

ERI'CA *cine'rea*. Tips crested. Blossoms egg-shaped. *fine-leaved* Shaft mostly projecting. Leaves in threes. Summit knobbed.—

Curt. ii. 13.—*Fl. dan.* 38.—*Walc.*—*Clus.* i. 43. 2, repr. in *Lob. obs.* 620. 1, *Ger. em.* 1382. 7, and cop. in *Park.* 1483. 8, and *Ger.* 1198. 7.

Blossom bluish. LINN.—*Leaves* when young with 3 flat sides, when full grown nearly flat. *Bloss.* clefts very shallow. *Tips* double, with 2 horns at the base. *Seed-bud* egg-shaped, ribbed. *Shaft* crimson. WITH.—*Leaves* strap-shaped, with a longitudinal furrow underneath, furrow white with a microscopical woolliness, edge somewhat membranaceous and microscopically ferrulated; upper surface towards the end beset with a few scattered hair-like points. *Trunk*, the lower part free from hairiness, the bark of the last year's shoot ash-coloured, covered with a short woolliness, light brown. *Branches* mostly in threes. *Flowers* rattling when struck, from the sides of the young shoots; those from the end of the shoots near each other but scattered, bare; those from the small lateral branches generally in pairs. *Fruit-stalks* shorter than the flowers, purplish brown, somewhat downy, the lower nodding, the upper upright, expanding, with a floral-leaf about the middle. *Floral-leaves* egg-shaped, purplish, one lying close to the fruit-stalk, and 3, and sometimes 2 at the base of each flower, the largest half as long as the empalement. *Empal. leaves* dark purple, edges membranaceous, white, ferrulated, with a furrow along the upper half. *Blossom* 3 times as long as the empalement, bluish purple, shrivelling, turning of a fawn-colour. *Threads* awl-shaped, ascending, doubled to and fro towards the point, white. *Tips* blackish purple; *horns* crimson, half-egg-shaped, the outer edge toothed, as short again as the tips; *apertures* oval oblique, extending nearly half way down the side. *Seed-bud* roundish, smooth. *Shaft* inclining to one side. ST.—*Stems* woody. *Leaves* fleshy.

Dry heaths and groves. [Heaths near Yarmouth. MR. WOODW.—In Staffordshire and north of Worcestershire. ST.]

S. June.—August.

** *Tips*

*** Tips without awns, projecting. Leaves in fours, or more.*

double-tipped ERI'CA *didy'ma*. Tips without awns, double, projecting. Threads hair-like. Blossoms bell-shaped. Shaft projecting. Leaves in fives. Fruit-stalks scattered, several times longer than the flowers. ST.*

There is no figure of it, but my friend, Mr. Curtis, will, I flatter myself, supply this deficiency, as soon as he shall have extended his Flora to the shores of Cornwall.—(Garid. 32, is an excellent figure of the E. multiflora, J. B. i. 6. 355, a tolerable one, and Matth. 153, cop. in Dalech. and Tabern. agrees more exactly, at least with the multiflora, than with any other of the species I have hitherto seen.)

Stems twisted, trailing. *Bark* of the more slender shoots ash-coloured, of the greater reddish brown. *Leaves* longish, narrow, somewhat like those of fir, pointed, but not sharp, green above, whitish underneath, edge bent in, crowded so close as to conceal the bark of the younger shoots. *Flowers* on longish and slender fruit-stalks, shortish, generally of a pale flesh-colour approaching to white, but sometimes with a deep tinge of purple. *Tips* blackish purple. *Seed* reddish brown. RAY. MR. WOODWARD. ST.—*Fruit-stalks* with 2 floral-leaves not exactly opposite, a little above the base. MR. WOODWARD.—*Tips* so much divided as to appear like 2 to each thread. Bot. Arr. ed. i. †—*Branches* between scored and angular, light reddish brown, all of them lateral, to 7 or more rising from the same point in the manner of a rundle, in some states of its growth giving it much of the appearance of the *Euphorbia Cyparissias*; when beginning to flower gradually tapering towards the end. *Leaves* strap-shaped, bowed sideways, smooth, not glossy, somewhat pointed, microscopically serrated at the edge with distant serratures, upper surface slightly elevated in the middle, underneath convex with a smooth furrow running along it, longer, and sometimes thrice as long as the blossom. *Leaf-stalks* shorter and narrower than the breadth of the leaf, flat, generally smooth, but sometimes slightly downy, pressed to the branch. *Flowers* roundish, on long fruit-stalks from the sides of the branches, beginning from below the middle, and extending to the ends of the branches, continuing on, at least in the cultivated plants, till the

next

* Antheris muticis didymis exsertis; filamentis capillaribus, corollis campanulatis, stylo exserto, foliis quinis, pedunculis sparsis flore longioribus. ST.

† Antheræ didymæ, vel potius duæ in singulo filamentis. Letter from PROFESSOR POTT, of Brunswick, Feb. 28, 1783. With this excellent botanist I had first the satisfaction of critically examining this species. ST.

next season. *Fruit-stalks* slender, hair-like, from the base of the leaves, nearly upright, and as long as the leaves, incorporated, 3 or 4 rising from a kind of scaly bud, composed of spear-egg-shaped yellowish scales fringed at the edge. *Flower-scales* spear-egg-shaped, fringed, 3 to each fruit-stalk, 2 a little below the middle of the fruit-stalk, opposite, the 3d a little below. *Empalement* without flower-scales at the base as in the other British species; *leaves* egg-shaped, hollow, the edges bending inwards, microscopically fringed, or rather of 1 leaf, divided to the base into 4 segments. *Blossom* truly bell-shaped, pointed at the base, cloven nearly half way down, segments broad, soon coming to a point, bluntyish, open. *Threads* hair-like, 1 or 2, perhaps, somewhat flattened, white, as long as the blossom. *Tips* just projecting beyond the blossom, 2 to each thread, expanding, egg-shaped, blunt, blackish brown, orifice oval on the outer side extending nearly half way down. *Seed-bud* roundish, smooth, with 4 deep furrows. *Shaft* as thick again as the threads. *Summit* just thicker than the shaft, the end flat. ST.

Erica foliis Corios multiflora. R. syn. 471. n. 5.—(*E. multiflora* of Linnæus, according to HUDS. but, an examination of specimens, first in the herbarium of PROFESSOR POTT, from M. Dick, of Switzerland, and afterwards in that of SIR JOSEPH BANKS, from Messieurs Gerard, Yalden, and Jacquin, and the garden at Trianon, convinced me, that our plant is neither the *multiflora*, nor any other of the Linnæan species. In the *multiflora* the “blossoms are cylindrical, and the leaves blunt,” as Linnæus describes them. *Leaves* straight, glossy, about the length of the flowers. *Tips* oblong, divided into 2 segments; segments close to each other as in the generality of *Ericas*. *Bloss.* cloven $\frac{1}{4}$ th of the way down, downy within at the base. *Threads* flat, of the same breadth with the shaft.—*E. Coris folio altera*, n. 2. Clus. i. p. 42, from his description of “the flowers crowded at the extremities of the branches,” should seem to be *E. multiflora*.—*E. foliis Corios multiflora*, J. B. i. 6. 356, from “the extremities of the branches abounding with flowers set close and projecting beyond the leaves,” should seem also to be *E. multiflora*.—*E. juniperifolia dense fruticans Narbonensis*, Lob. obs. 620, is more doubtful, but he refers to the figure of Matth. and the species which grows in the south of France, as appears from the specimen from M. Gerard, is the true *multiflora*. ST.

Heaths. Goon Hilly Downs, going from Helfton to the Lizard Point, Cornwall. RAY. [DR. POULTNEY.] P. Junc.—Aug.

The *Papilio Maturna* is found on the different species.

Irish ERI'CA *Dabæ'cia*. Tips without horns. Tips and shaft within the blossom. Blossom egg-shaped. Leaves alternate, spear-shaped, rolled in at the edge. Flowers in bunches, pointing one way. HUDS.—See *Andromeda Dabæcia*.

526. DAPH'NE. Mezereon.

EMPAL. Cup none.

BLOSS. 1 petal; funnel-shaped; shrivelling. Tube cylindrical; closed at the base; longer than the border. Border with 4 clefts; segments egg-shaped; sharp; flat; expanding.

CHIVES. Threads 8; short; inserted into the tube; 4 of them alternately lower than the other 4. Tips upright; roundish; with 2 cells.

POINT. Seed-bud egg-shaped. Shaft very short. Summit knobbed; flat; but somewhat depressed.

S. VESS. Berry of 1 cell; roundish.

SEED single; nearly globular; fleshy.

ESS. CHAR. Empal. o. Blossom 4 clefts, of the true texture of a blos. shrivelling, inclosing the chives. Berry of 1 seed.

common DAPH'NE *Meze'reum*. Flowers sitting, in threes, growing on the stem. Leaves spear-shaped, deciduous.—

Fl. dan. 268, flowers the best.—*Sheldr.* 62.—*Ludw.* 63, and *Blackw.* 582, foliage the best.—*Fuchf.* 227, cop. in *J. B.* i. 566.—*Dod.* 364. 2, repr. in *Lob. obs.* 199. 4, *Ger. em.* 1402. 2, and cop. in *Park.* 202. 3, in fruit.

The terminating buds produce leaves; the lateral buds flowers; which open very early in the spring, often in the winter; and are so thick set as to make the branches appear of a beautiful red. LINN.—Flowers also in twos and fours. REICH.—Blos. sometimes pale red, and white. ST.

Mezereon. Spurge Olive. Spurge Flax. Dwarf Bay.

Woods near Andover, [and Laxfield, Suffolk. Mr. Woodw.]
S. Feb. March.

An ointment prepared from the bark, or the berries, has been successfully applied to ill-conditioned ulcers. The whole plant is very corrosive; 6 of the berries will kill a wolf. A woman gave 12 grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately. A decoction made of 2 drams of the cortical part of the root, boiled in 3 pints of water
till

till 1 pint is wasted; and this quantity, drank daily, is found very efficacious in resolving venereal nodes, and other indurations of the periosteum. See Dr. Ruffel's paper in the *Med. obs.* iii. p. 189.

—The considerable and long continued heat and irritation that it produces in the throat, when chewed, made me first think of giving it in a case of difficulty in swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear to do it; and, in about 2 months, she recovered her power of swallowing. This woman bore the disagreeable irritation, and the ulcerations its acrimony occasioned in her mouth, with great resolution; but she was reduced to skin and bone, and for 3 years before had suffered extremely from hunger, without being able to satisfy her appetite; for she swallowed liquids very imperfectly, and solids not at all. The complaint came on after lying-in. WITH.

It is eaten by Sheep and Goats. Cows and Horses refuse it.

DAPH'NE *Laure'ola*. Bunches of 5 flowers from the bosom of the leaves. Leaves spear-shaped, smooth. LINN. *Laurel*
—Flowers 4 to 7 in a bunch. Mr. HOLLEFEAR.

Walc.—Blackw. 62.—Lob. obs. 200. 1, repr. in Ger. 1404. 1; and cop. in Park. 205. 1, and Ger. 1219. 1, in blossom.—Dod. 365, repr. in Lob. obs. 200. 2, &c. in fruit.—J. B. i. 564.—(Matth. 1217 and 1218, different species.)

Bunches from the sides of the stem, nodding. Floral-leaves concave, alternate, without any flowers from their base. Flowers terminating the bunch. Bunches clustered into a rundlet. Flowers sad in colour, ungrateful in scent, and blossoming in a gloomy season. Blofs. yellowish green. LINN.

Spurge Laurel.

Woods and hedges.

S. March. April.

Very happy effects have been experienced from this plant in rheumatic fevers. It operates as a brisk and rather severe purgative. It is an efficacious medicine in worm cases; and upon many accounts deserves to be better known to physicians; but, in less skilful hands, it would be dangerous, as it is possessed of considerable acrimony. The whole plant has the same qualities, but the bark of the root is the strongest. Dr. Alston fixes the outside dose at 10 grains.

Order II.

DIGYNIA; II. POINTALS.

607. CHRYSOSPLE'NIUM. Sengreen.

EMPAL. Cup with 4 or 5 divisions; expanded; coloured; permanent. Segments egg-shaped; the opposite ones narrowest.

BLOSS. none, unless you call the cup so because it is coloured.

CHIVES. Threads 8 or 10; awl-shaped; upright; very short; standing upon the angular receptacle. Tips simple.

POINT. Seed-bud beneath; terminated by 2 awl-shaped Shafts as long as the chives. Summits blunt.

S. VESS. Capsule with 2 bills, divided into 2, with 1 cell, and 2 valves; encompassed by the cup which becomes green.

SEEDS many; very small.

ESS. CHAR. Empalement with 4 or 5 clefts; coloured. Blos. o. Capsule with 2 beaks, 1 cell, many seeds.

OBS. The terminating flower has 5 clefts; the rest, which open later, 4. Has a very close affinity to Saxifraga, but by no principle of arrangement can I combine them into one genus. LINN. gen. pl. ed. ii.—Its other British congener is *Adoxa* in the division of the order Succulentæ. ST

alternate
leaved CHRYSOSPLE'NIUM *alternifolium*. Leaves alternate.—

Fl. dan. 366.—Walc.—Pet. 6. 10.—H. ox. xii. 8. 8.—J. B. iii. 707. 1.

Chives in the terminating flower 10, in the rest 8. LINN.—Chives of the terminating flower very seldom 10. ESCHENBACH. *obs. bot.*—The terminating flower generally with 4 clefts, and 8 chives. LEERS.—The terminating flower with us has always 4 clefts, and 8 chives. MÆNCH.—Root throwing off off-sets, but no creeping suckers. So much larger in all respects than the *C. oppositifolium*, that, where they grow intermixed, by this circumstance alone they may be distinguished at some distance. Leaves deeply notched.

Root.

Root-leaves 2 or 3, on long hairy leaf-stalks, kidney-shaped, bluntly notched. *Stem-leaves* similar to those of the *E. oppositifolium*, 2 or 3, on leaf-stalks decreasing in length as they approach the summit; the upper smooth. *Stem* 3-cornered, with imperfect angles, hairy below, smooth upwards, near the summit forked; the forks bare of leaves. *Branches*, 1 or 2 very short ones, just above the root-leaves, with alternate leaves similar to those of the root; *subdivisions* of the upper not so regularly forked as in the *C. oppositifolium*. *Flowers* solitary, and in rundles; the solitary ones on a short fruit-stalk on one of the branches a little above the forks; those in rundles with a leaf at their base. *Chives* in all the terminating ones I examined, which were a great number, as well as in the lateral ones, 8, 4 of them from the base of the segments, the other 4 from the fissures. *Capsule* bursting into 2 parts. *Seeds* roundish, shining, not readily shaking out, brownish. Mr. Woodw.—With the *C. oppositifolium*, but less frequent

Near Bingley, Yorkshire. [About Esholt, on the river Air, 8 miles above Leeds, plentifully. Mr. Wood.—Boggy grove on Portland Heath, near Norwich. Mr. Woodw.—Purlicu Lane, leading from the Wytch to Mathon, Worcestersh. Mr. Ballard.]

P. March. April.

CHRYSOSPLE'NIUM *oppositifolium*. Leaves oppositeleaved opposite.—

Curt. ii. 23.—Pl. dan. 365.—Dod. 316. 2, repr. in Lob. obs. 336.

1, Ger. em. 841. 2, and cop. in Park. 425. 2, H. ox. xii. 8. 7, and Pet. 6. 9.

Very closely allied to the *C. alternifolium*. LINN.—With us all the flowers with 4 clefts, and 8 chives. LEERS. ST. 1775. Mr. Woodward.—*Empalement* sometimes, though rarely, with 5 divisions. *Chives* in the terminating flower sometimes 10, proceeding from beneath the receptacle or rather honey-cup. CURT.—*Stem* upright, with 2 or 3 pair of leaves, roundish, with 2 opposite furrows, near the top forked; forks without leaves. *Branches* dividing again into forks with a leaf and a single flower at each division, from which also arise small leafy rundles of sitting flowers. *Suckers* from the base of the stem, covered with leaves, creeping. *Leaves* all alike, circular, with the base lopped on each side, indistinctly and irregularly notched, with a few hairs on the upper surface; the under smooth. *Root-leaves* several, on short hairy leaf-stalks. Mr. Woodw.—*Stems* 4-cornered. *Leaves* roundish, notched; the lower ones set with glandular bristles on the upper surface. *Chives* sometimes only 6 or 7. WITH.—*Leaves* on short leaf-stalks. *Flowers* bright yellow.

Golden Saxifrage.

Moist shady places, sides of boggy rivulets. [Copse on Poling-land Heath, near Norwich. Mr. PITCHFORD.] P. Apr. May.

Order III.

TRIGYNIA; III. POINTALS.

537. POLYG'ONUM. Snakeweed.

EMPAL. *Cup* turban-shaped; with 5 divisions; coloured within; *segments* egg-shaped; blunt; permanent.

BLOSS. none, unless you call the cup the blossom.

CHIVES. *Threads* generally 8; awl-shaped; very short. *Tips* roundish; fixed sideways.

POINT. *Seed-bud* 3-cornered. *Shafts* generally 3; thread-shaped; very short. *Summits* simple.

S. VESS. none. The *Cup* laps round the seed.

SEED single; 3-cornered; sharp.

ESS. CHAR. *Empal.* o. *Bloss.* 5 divisions; of the texture of an *empalement*. *Seed* 1; angular.

OBS. In some species there are 6 or 7 chives, and in others 5. In some the pointal is cloven.

* The Bistorts. *Spike* single.

Bistort POLYG'ONUM *Bistort'a*. Stem quite simple, with a single spike. Leaves egg-shaped, running down into leaf-stalks.—

Ludw. 31.—*Curt.* i. 2.—*Blackw.* 254.—*Mill.* 66.—*Fl. dan.* 421.—*Sheldr.* 111.—*Chuf.* ii. 69. 1, repr. in *Dod.* 333, *Lob. obs.* 156. 3, *Ger. em.* 399. 1, and ill cop. in *H. ox.* v. 28. row 3. 2.—*Matth.* 946.—*Park.* 392. 1.—*Fuchf.* 773, cop. in *Trag.* 321, *J. B.* iii. 539. 1, and *Lonic.* i. 202. 3.—*Fuchf.* 774, cop. in *J. B.* iii. 538.—*Ger.* 322. 1 and 3.

Upper-leaves arising from long sheaths inclosing the stem. Mr. WOODWARD.—*Sheaths* of the leaf-stalks sometimes rising above the insertion of the leaf-stalks to half the length of the leaves. *St.* *Root-leaves* extended down the leaf-stalks. *Stem-leaves* sheathing the stem. *Flowers* in a spike. *Common empalement* of 2 valves, each containing 2 flowers; *valves* skinny, the one large, lopped, the other

other smaller, and terminated by a skinny awn. *Flowers*, 2 within each common empal. one of them on a fruit-stalk, the other sitting furrounded with a kind of proper cup, thin, skinny, nearly cylindrical; mouth even and very entire. *Blossom* with 5 divisions, pale red. *Tips* double, the 2 parts being only united by the threads. *Seed-bud* purple. *Receptacle* glandular, formed by an expansion of the bottom of the threads. WITH.

Greater Bistort. Snake-weed.

Moist meadows in the northern counties. Bishop's Wood, near Hampstead, and Battersea. [Brome, Norfolk. Mr. WOODW.—Ham Green, near Mathon, and Martley, Worcester-sh. Mr. BALLARD.—Near Derby. Mr. WHATELY.—Near the Infirmary, Stafford. WITH.] P. May. June.

The root is one of the strongest vegetable astringents. The young shoots are eaten in herb pudding in the north of England. ST.

POLYG'ONUM vivip'arum. Stem quite simple, *viviparous* with a single spike. Leaves spear-shaped.—

Fl. dan. 13.—*Clus.* ii. 69. 2, repr. in *Ger. em.* 399. 2, and cop. in *Park.* 392. 4, *Ger.* 322. 2, and *J. B.* iii. 539. 2.—*Fluk.* 151. 2.

Lower flowers of the spike frequently changed into vegetating bulbs. LINN.—*Stem-leaves* strap-shaped, arising from a sheath. *Sheaths* inclosing the stem, terminated by a blunt membrane. Mr. WOODWARD.—*Bulbs* darkish purple, egg-shaped, sometimes intermixed with the flowers, mealy and white within. ST.—*Blossom* whitish.

Small Bistort.

Mountainous pastures. Crosby Ravensworth, and other places in Westmoreland; near Settle, Yorkshire, and Scotland. [Edge of Semer Water at Carr-end Wensley Dale. CURT.] P. June.

The roots dried and ground to powder are nutritious.

Cows, Goats, and Swine eat it. Sheep are not fond of it. Horses refuse it.

β. HUBS. Root-leaves roundish, and minutely ferrated. Stem about 4 inches high. RAY.

H. ox. v. 28. 3 and 5.—*Park.* 392. 6.

Pastures on a high rock called y Grib Goch, above the Lake Ffynnon Frech, near Llanberys.

** Arsmarts. *Pointal cloven (or divided.)* Chives fewer than 8.

POLYG'ONUM amphib'ium. Chives 5. Shafts *amphibious* cloven. Spikes egg-shaped.—

D d 4

α. *aquaticum.*

water *α. aquaticum*. LEERS.—Chives shorter than the blossom. JACQ.
LEERS. ST.—Leaves floating, blunt, very smooth. LEERS. ST.
Ludw. 168.—*Pet.* 3. 12. 6.—*Fl. dan.* 282, *leaves too much like*
variety β.—*Dod.* 582. 1, *cop. in Park.* 1254. 1. *a. and H. ox. v.*
29. row. 2. 1.—*Ger. em.* 821. 2, *cop. in Park.* 1254. 2, *and H.*
ox. v. 29. row. 1. 2. f. 4.—*Ger.* 675. 2.

Leaves of a pleasant green, oblong-spear-shaped, glossy, surrounded at the very edge with a reddish line; the younger very minutely serrated. *Leaf-stalks* from the sheaths of the stem. *Empal.* as in *P. Bistorta*, except that the inner cup is cloven into segments, *Bloss.* as in *P. Bistorta*. *Threads* 5, in other respects as in *P. Bistorta*. *Seed-bud* flattish. *Shaft* deeply divided. *Summits* 2 knobs. WITH, *Perennial Willow-leaved Arjmart.* *Narrow-leaved Pondweed.*

Pools, lakes, marshes, and ditches. P. June. July.

Horses, Goats, Sheep, and Swine eat it. Cows refuse it.

land *β. terrestre*. LEERS.—Chives generally longer than the blossom. Stem upright. Leaves somewhat pointed, rough. LEERS. ST.

Curt. iv. 40.—*Pet.* 3. 12. *a.*

Leaves darker green.

In cultivated ground, but very seldom flowering, except in spots where water has settled. [On the side of a piece of water the flowering stem growing on the land, and other branches from the same root floating in the water. ST.] P. Sept.

biting POLYGONUM *Hydropiper*. Chives 6. Shaft cloven half way down. Leaves spear-shaped. Leaf-scales scarcely fringed. LINN.—Leaves waved, not spotted. Spikes thread-shaped, nodding. *Leaf-scales very evidently fringed.* CURT.—Floral-leaves naked.* ST.

Curt. i. 11.—*Blackw.* 119.—*Fuchs.* 843, *cop. in J. B.* iii. 780.—*Pet.* 3. 5.—*Math.* 583.—(*Dod.* 607. 2, *repr. in Lob. obs.* 171. 1, *Ger. em.* 445. 1, *and cop. in Park.* 857. 1, *and abridged in H. ox. v. 29. 6; as also Ger.* 361. 1, *and Trag.* 90, *from the compactness of the spikes, as also its general habit, appear to me to be P. Perficaria.*)

The leaf-scale sheaths tight round the stem, lopped, ribbed, the ribs terminating in bristles forming a fringe. *Leaves* very thin, smooth on each side, edge very entire, but serrated, as it were, with bristles laid to the edge, and scarcely perceptible. LINN.—*Leaf-scales* bald. *Summits* globular. HALL. ST.—*Floral-leaves* not fringed. MÆNCH. ST.—Though with sometimes a straggling short hair or 2 on the edge. ST.—*Flowers* at some little distance from each

* Floribus hexandris semidigynis, spicis filiformibus nutantibus, bracteis nudis. ST.

each other, 2 or 3 together. *Seeds* faintly 3-cornered. LEERS. ST.—*Leaves* of a yellower hue, and more waved than those of *P. Persicaria*. *Empal.* sprinkled with very minute glands. *Seeds* larger and more pointed than those of *P. Persicaria*. CURT.—*Spikes* nodding even before flowering. Mr. WOODW.—Whole *plant* sprinkled with minute glandular dots, but even with the surface, and more obvious with a moderate than a higher magnifying lens, probably the seat of its very acrid property. *Stem*, and all its subdivisions, quite smooth, smooth above the knots, knots red. *Leaf-scales* tinged with red, ribs scarce sensibly prominent. *Flowers* green, red towards the end. ST.—*Blossoms* purple, or white.

Water Pepper. *Arsmart.* *Lakeweed.*

Watery places, on the sides of rivulets, lakes, and ditches.

A. July,—Sept.

The whole plant has an acrid, burning taste. It cures little aphthous ulcers in the mouth. It dyes wool yellow. The ashes of this plant, mixed with soft soap, is a nostrum, in a few hands, for dissolving the stone in the bladder; but it may be reasonably questioned whether it has any advantage over other semi-caustic preparations of the vegetable Alkali. Its acrimony rises in distillation, and the distilled water drank to the amount of 2 or 3 half pints daily, has been found very effectual in some nephritic cases. WITH,

Horses, Cows, Goats, Sheep, and Swine refuse it. LINN.

β. HUDS. *Polygonum minus*, which see.

POLY G'ONUM *minus*. Chives 6. Shafts 2. *creeping*
Leaves spear-shaped. Leaf-scales fringed. Stem with wide spreading branches. HUDS. *ed.* i.—Shaft slightly cloven. Leaves strap-spear-shaped. Stem creeping at the base. CURT.—Spikes interrupted, very thinly set. GMEL. ST.—Spikes thread-like.* Chives sometimes 5 and 7. ST.

Curt. i, 11.—*Lob. obs.* 171. 2, repr. in *Ger. em.* 446. 3, cop. in *Park.* 857. 4, *H. ox.* v. 29. row 3. 5. f. 1, and *Pet.* 3. 6.

Shaft undivided. *Summus* 2 or 3. *Seeds* smaller than in the other species, more triangular, black, glossy. In most other respects accords with *P. Hydropiper*. GMEL.—Stems several, 9 inches to a foot high. Leaves almost veinless. Spikes slightly nodding. Shaft sometimes slightly cloven into 3. CURT.—Leaves not acrid. ST.

Persicaria angustifolia. C. B. pr. 43.—*ex singulis geniculis florens.* R. syn. 145. (CURT. ST.)—*P. Persicaria* β and γ. Linnæus. ST.

* Spicis filiformibus interruptis. ST.

Moist and watery meadows. [Tothill Fields, Westminster. HUDS. CURT.—Gravel pit on Malvern Chace with *P. Hydropiper*. ST.] A. Sept.

Spotted POLYG'ONUM *Perficaria*. Chives 6. Shafts 2.* Spikes egg-oblong. Leaves spear-shaped. Leaf-scales fringed. LINN.—Shafts cloven half way down. Fruit-stalks smooth. Spikes upright. CURT.—Floral-leaves fringed.† *Fruit-stalks sometimes beset with hairs.* ST.

Fl. dan. 702.—*Walc.*—*Curt.* i. 5.—*Pet.* 3. 7.—*Blackw.* 118.—*Dod.* 607. 2, repr. in *Lob. obs.* 171. 1, *Ger. em.* 445. 1, and cop. in *Park.* 857. 1.—*Ger.* 361. 1.—*Trag.* 90.—(*Fuchs.* 630; cop. in *Trag.* 91, *J. B.* iii. 779. 2, and *Lonic.* i. 162. 1; from the breadth of the leaves, and *Ger.* 361. 2, from the thickness of the spikes appears to be *P. pennsylvanicum*, and *Dod.* 608, repr. in *Ger. em.* 445. 2, and cop. in *Park.* 857. 2, and *H. ox.* v. 29. row 2. 2, from the breadth of the leaves seems rather the *P. pennsylvanicum* with spotted leaves.—*Matth.* 584, seems to be *P. orientale*.)

I must confess there are not always 2 shafts, having often found them united below. GMEL.—Stem sometimes creeping at the bottom. Leaves, edge and mid-rib slightly hairy, mostly marked with a blackish spot somewhat like a horse shoe. Flowers of a bright rose-colour. Seed-bud oval and flattened, or 3-square. Shaft often cloven half way down into 3 parts, and, when this is the case, the seed-bud and seed are 3-square. Seed egg-shaped, and slightly convex on one side, or 3-square. CURT.—Shaft cloven half way down. MR. HOLLEFEAR. ST.—Stem sometimes smooth, sometimes beset above with hairs, in general lying close to the stem; above each knot swollen and hunched on the under side, giving each joint the appearance of the thigh of a fowl, dotted here and there with red. Leaves sometimes dotted underneath with minute green dots, and sometimes beset above with whitish dots. Leaf-scales hairy, with prominent ribs, the lower ones bursting from the swelling of the knots. Fruit-stalks sometimes sprinkled with a few glands.

Seed

* I know no species which has 2 shafts, and, at the same time, such leaf-scales as Linnæus would describe as fringed, when he calls those of the *P. Hydropiper* “*submuticis*.” The *P. pennsylvanicum* with a spotted stalk, of Mr. Curtis, so much resembles this, that I am inclined to believe that Linnæus formed the above character with specimens of both before him, and supposing them to be one and the same species, neglected to examine microscopically the shafts of the true *P. Perficaria*. ST.

† Floribus hexandris semidigynis, spicis oblongis erectis, stipulis bracteisque ciliatis. ST.

Seed sometimes 3-cornered even when the shaft is cloven only into 2. *Floral-leaves* hairy, ribbed, hairs of the fringe nearly half as long as the leaf. *Shaft*, arms straight, expanding. *Spikes* sometimes white tinged with pink. *ST.*—*Stem* nearly cylindrical, thickest at the joints, more or less tinged with red. *Leaves* nearly smooth, but with very minute bristles lying along the edge. *Leaf-scales* sheathing, ribbed. *Common fruit-stalks* springing from the sheathing leaf-scales at the joints of the stem. *Flowers* 3 or 4 together, included in a membranaceous fringed sheath, on short fruit-stalks of different lengths, which are again inclosed by skinny sheaths. *Bloss.* segments concave, unequal. *Chives* sometimes 5 and 7. *Tips* sometimes 2 upon one thread. *Shaft* cloven nearly half way down. *Summits* globular. WITH.

Dead or Spotted Arsmart.

Ditches, on the side of water, and not unfrequently in corn-fields. A. July.—Sept.

Its taste is slightly acid and astringent. Woollen cloth dipped in a solution of alum obtains a yellow colour from this plant.

Goats, Sheep, and Horses eat it. Cows and Swine refuse it. LINN.

β. HUDS. *Polygonum minus*. CURT. which see.

γ. HUDS. *Polygonum pensylvanicum*. CURT. var. 4, which see.

δ. HUDS. *Polygonum pensylvanicum*, (*petēdicale*) which see.

ε. HUDS. Leaves like those of the *Salix alba*. RAY.

Pet. 3. 9.

ζ. HUDS. *Polygonum pensylvanicum*. CURT. which see.

η. HUDS. Stems spotted.

Polygonum pensylvanicum, (*petēdicale*) which see.

POLYGO'NUM *pensylvanicum*. Chives 6. Shaft *pale-flowered* divided almost to the base.* Leaf-scales not fringed. Fruit-stalks rough. Seeds with a depression on each side. CURT.—*Fruit-stalks not properly rough, being beset with glands, not hairs.* ST.

Curt. i. 12.—Pet. 3. 11.—Fuchf. 630, cop. in Trag. 91, J. B. iii. 779. 2, and Lonic. i. 162. 1.—Dod. 608, repr. in Ger. em. 445. 2, and cop. in Park. 857. 2, and H. ox. v. 29. row 2. 2, is the variety with spotted leaves.

Stem fiveln above the knots. *Leaf-scales* solitary, within the leaves, permanent, sheathing, growing to, lopped, fringed, but
it

* I am inclined to believe that Linnæus's specific character of the *P. Persicaria* was formed from a microscopical examination of this plant, and a joint view of this *P. pensylvanicum* (*petēdicale*) and the true *P. Persicaria*. ST.

it often happens that they break off about the middle and then they appear not fringed. *Chives* from 6 to 8. Huds.—*Stem* upright, 3 feet high, of the thickness of one's finger. *Leaves* of a palish green, with a kind of mealiness, sometimes spotted, sometimes not. *Spikes* thicker than those of *P. Persicaria*, heavy, and, in consequence of their weight, often hanging down. *Seeds* larger than those of *P. Persicaria*. Rav.—*Stem* cylindrical, smooth. *Leaves* egg-spear-shaped, smooth above; the uppermost dotted underneath with minute glands, the lowermost covered with a kind of down; sometimes with, and sometimes without spots. *Leaf-stalks* hairy underneath, with a slight roughness to the touch. *Leaf-scales* more strongly ribbed than in *P. Persicaria*. *Fruit-stalks* beset with minute yellowish globular glands, on exceedingly short foot-stalks. *Spikes* oval, when the seeds are ripe drooping. *Flowers* greenish, set close together. *Seed* flat, with a depression in the middle of each side, sometimes obtusely triangular. CURT. ST.—*Stem* free from hairs, but towards the top sprinkled here and there with minute globular glands on exceedingly short pedicles; swollen above the joints as in that of *P. Persicaria*. *Leaves* beset at the edge with minute hairs as in *P. Hydropiper*, and the mid-rib underneath rough with hairs lying flat. *Leaf-scales* with a few short fine hairs sometimes scattered along the edge. *Flowers* pale whitish green, whitish towards the end. ST.

P. pennsylvanicum. Huds. ed. i.—*P. Persicaria* ? ed. ii.—Not *P. pennsylvanicum* of Linnæus, which has “3 chives, and fruit-stalks rough “ with stiffish bristles, secreting a glutinous liquor from their “ points.” But not having seen a specimen of the American plant, Mr. Curtis's designation has been adhered to. Should my opinion be confirmed, our species may be titled *pallescens*. ST.

Dunghills, cornfields, and sometimes on the side of water.

A. August.

red 2. *Stem* and *flowers* red, but not so beautifully bright as those of *P. Persicaria*. Like variety 1 in every other respect. CURT.

Dunghills with variety 1, and also in cornfields.

flea-bitten 3. *pecticæle*. ST.—*Stem* spotted with red. CURT. ST.—*Shaft* divided somewhat more than half way. ST.

Curt. i. 12.

Comes near to a distinct species. *Stem* spotted with red. *Spikes* much slenderer, even more so than those of *P. Persicaria*, red, but not so bright as those of the *Persicaria*. *Leaf-stalks* rough underneath. *Seeds* smaller than those of variety 1. In a rich soil as large as variety 1, but in other situations much smaller, and its leaves are generally white underneath. If not attentively examined will be taken for the *P. Persicaria*. CURT. ST.—*Leaves* with yellowish dots.

Leaf-scales

Leaf-scales blunt, smooth, or fringed with very minute hairs. **POLLICH. ST.**—Mouth downy, hardly to be called fringed. **LEERS. ST.**—*Spikes* of a dull rusty red on the side opposed to the sun, pale green on that not exposed to the sun. *Flowers* when in blossom whitish green, becoming tinged more or less with red as the seed-bud advances to maturity: *Stem* like that of *P. Persicaria*, and *pennsylvanicum*, spotted with small oblong spots resembling flea-bites or petechi. *Leaves*, the upper smooth and dotted underneath; the lower spread over with a thin bluish white down, not dotted. *Leaf-stalks* of the lower-leaves smooth. *Spikes* oblong, and egg-oblong, generally thicker than those of *P. Persicaria*, and often as thick as variety 1. *Shaft*, arms bowed outwards. *Fruit-stalks* while young beset with glands on very short foot-stalks, which, decaying as the spikes advance to maturity, leave the fruit-stalks rough with prominent points. **ST.**

P. Persicaria. **POLLICH. LEERS. n. d. HUDS.**

Ditches about St. George's Fields often with *P. Persicaria*, and on the watery parts of Blackheath and Peckham Rye. Dunghills, and in a ditch on Stourbridge Common. **ST.] A. Sept.**

4. *Leaves* hoary underneath. **CURT.**

hoary

Pet. 3. 8.

Cornfields, and other situations where the soil is not very rich.

Sparrows and other small birds are very fond of the seeds of all the varieties. **CURT. ST.**

*** Knotgrasses. *Leaves* undivided. *Chives* 8.

POLYG'ONUM aviculare. *Chives* 8. *Shafts* 3. *Knotgrasses*
Flowers from the bosom of the leaves. *Leaves* spear-shaped. *Stem* trailing herbaceous. **LINN.**—*Chives* sometimes 7. **Gmel.**

α. latifolium. **RETZ.**

broad-leaved

Curt. i. 10.—*Fuchs.* 614, *cop. in J. B.* iii. 375. 1, and *Trag.* 391.—*Blackw.* 315.—*Fl. dan.* 803.—*Matth.* 951, *cop. in Dod.* 113. 1, *repr. in Lob. obs.* 228. 3, *Ger. em.* 565, and which *cop. in Park.* 443. 1, *H. ox.* v. 29. row 3. 1, and *Pet.* 10. 1.—*Ger.* 451.—*Lonic.* 1. 168. 3.

Chives 8. *Shafts* sometimes 2. **ST.**—*Stem* scored, thickest at the joints, and separating when pulled. *Leaves*, some egg, and some spear-shaped. *Flowers* 2 or 3 together, from the bosom of the leaves. *Fruit-stalks* short, but 2 of them longer. *Empalement* double, skinny; the outer with 5 spear-shaped segments inclosing the 3 florets; the inner incloses only the 3d floret, and sometimes the rudiment of a 4th. *Bloss.* greenish on the outside, white within, often tinged with pink. *Tips* yellow, fixed to the end of the threads. **WITH.**

Road

Road sides, paths, streets, corn-fields, especially in a gravelly soil. A. or B. Apr.—Sept.

The seeds are useful for every purpose in which those of the next species are employed. Great numbers of small birds feed upon them.

Cows, Goats, Sheep, Horses, and Swine eat it.

It affords nourishment to the *Chrysomela Polygoni*.

short-leaved *β. brevifolium*. RETZ.—Leaves oblong. ST.

Ger. 451. 2, cop. in Pet. 10. 3.

Chives 7.

In gravelly spots, and road sides. [Sandy road near Ingestre Heath, Staffordshire. ST.]

narrowleaved *γ. angustifolium*. RETZ.—Leaves strap-shaped. ST.

Pet. 10. 4.

Camberwell, and amongst corn in Houndfield by Poundersend. RAY.

thickset *δ. HUDS.* Leaves oval. ST.

Pet. 10. 2.

Uncultivated places. RAY.—[Near Colehill, Warwicksh. ST.]

OBS. No plant varies more in the shape and size of the leaves, from strap-shaped to oval, and in breadth from a line to $\frac{1}{2}$ inch. Mr. WOODWARD.

sea *ε. HUDS.*—*P. maritimum*. Chives 8. Shafts 3. Flowers from the bottom of the leaves. Leaves oval-egg-shaped, evergreen. Stem somewhat shrubby. LINN.

J. B. iii. 377. 1, cop. in Pet. 10. 5.—*H. ox.* v. 29. row 3. 3.—

Lob. adv. 179.

So nearly allied to *P. aviculare* as scarcely to be distinguished from it. Flowers in fours. Stem flattened on one side, shorter, hard, perennial. Leaves egg-shaped, leather-like, turning bluish in drying. LINN.

S. LINN.

**** Leaves nearly heart-shaped.

Buckwheat POLY'G'ONUM *Fagopyrum*. Leaves heart-arrow-shaped. Stem nearly upright. Without prickles. Angles of the seeds equal.—

Dod. 512, repr. in *Lob. obs.* 513. 3, *Ger. em.* 89, cop. in *Park.*

1141, *H. ox.* v. 29. row 1. 1. f. 1, and *Pet.* 2. 12.—*Trag.*

648.—*J. B.* ii. 993.—*Ger.* 82. 2, repr. in *C. B. th.* 530.—

Lonic. i. 253. 1 and 2.

Blossoms purplish white, in long loose spikes.

Buck Wheat. Bucke. Branks. French Wheat. Crap.

Corn fields.

A. July. Aug.

This plant is very impatient of cold, dying at the very first attack of frost. The seeds furnish a nutritious meal, which is not apt

apt to turn acid upon the stomach. It is made into thin cakes in some parts of England, called Crumpits. It is usual with farmers to sow a crop of Buckwheat, and to plough it under when fully grown, as a manure to the land. The seeds are excellent food for poultry. Sheep that eat this plant become unhealthful. As it flowers late in the summer, M. Du Hamel, in his observations upon the management of bees, advises to move the hives in the autumn, to a situation where plenty of this plant is sown.

Cows, Goats, and Sheep eat it. Swine and Horses refuse it.

POLY G'ONUM *Convoll'vulus*. Leaves heart-shaped. *climbing*
Stem twining, angular. Flowers blunted. LINN.

Curt. iv. 44.—Fl. dan. 744.—Ger. 713. 4.—(Dod. 396. 1, repr. in Lob. obs. 343. 2, Ger. em. 863. 5, and cop. in Park. 172. 8, J. B. ii. 153, H. ox. v. 29. row 1. 2. f. 2, and Pet. 2. 12, is *P. dumetorum*, but, excepting the seed-vessel, it is, perhaps, the best representation of this species when in its most luxuriant state.)

Bunches from the bosom of the leaves. Some flowers also at the base of the common fruit-stalk. Seeds covered with a 3-square empalement. Tips violet. LINN.—Leaves arrow-shaped. CURT. ST.—Tips red. ST. WITH.—Keel of the valves sometimes edged with a shallow, white, membranaceous border, similar to that of *P. dumetorum*, but not exceeding $\frac{1}{4}$ of a line. ST.—Fruit-stalks channelled, the upper part covered with flowers. Empalement concave. Threads yellowish white. Tips double, with a small gland just behind the tip. Shafts 3, very short. Summits globular. Seed, sides hollow. WITH.—Bloss. greenish white. Leaves, angles at the base sometimes lopped.

Black Bindweed.

Corn fields, gardens, and hedges.

A. June.—Sept.

The seeds are quite as good for use as those of the preceding species, are produced in greater quantity, and the plant bears cold better.

Cows and Goats eat it. Sheep, Swine, and Horses refuse it.

LINN.—A horse eat it. ST.

Obs. The *Phalæna Lubricipeda* is found upon several of the species.

Order IV.

TETRAGYNIA; IV. POINTALS.

542. PA'RIS. Truelove.

EMPAL. *Cup* 4 leaves; permanent; leaves spear-shaped; pointed; as large as the blossom; expanding.

BLOSS. *Petals* 4; expanding; awl-shaped; resembling the cup; permanent.

CHIVES. *Threads* 8; awl-shaped; short; beneath the tips. *Tips* long, growing to the middle of the threads, and on each side of them.

POINT. *Seed-bud* roundish; but with 4 angles. *Shafts* 4; expanding; shorter than the chives. *Summits* simple.

S. VESS. *Berry* globular; with 4 angles, and 4 cells.

SEEDS several; lying in a double range.

ESS. CHAR. *Empal.* 4 leaves. *Petals* 4; narrower (than the empalement.) *Berry* 4 cells.

four-leaved PA'RIS *quadrifolia*.—

Fl. dan. 139.—*Blackw.* 286.—*Matth.* 1093.—*Dod.* 444, repr. in *Lob. obs.* 137. 2, *Ger. em.* 405. 1.—*Ger.* 328. 1, cop. in *Pet.* 44. 8.—*Fuchs.* 87, cop. in *J. B.* iii. 613.—*Park.* 390. 1, cop. in *H. ox.* xiii. 3. 6.

Leaves sometimes 3, 5, and 6. C. B. HALL.—*Root* somewhat fleshy. *Stem* naked. *Leaves* shining. *Flower* 1. LINN.—*Stem* undivided, cylindrical. *Leaves* in a whorl, expanding, sitting, egg-shaped, very entire, taper-pointed, smooth, ribbed underneath. *Fruit-stalk* terminating, somewhat angular, with 1 flower. *Flower* green. *Empalement*, leaves strap-shaped, bent back. *Petals* bent back, somewhat shorter than the blossom. *Seed-bud* black. *Shafts* thrice as short as the chives. LYONS.—*Leaves* sometimes 5. MR. WOODWARD. WITH. ST.—And, in a number of plants growing together, only 3, but they were all small and barren, possibly young plants not arrived at maturity. *Flower* on a fruit-stalk from 1 to 2 inches long. MR. WOODWARD.—*Leaves* sometimes 6, egg-shaped, tapering to a point, fixed to the top of the stalk. *Shafts* purplish black, hardly so long as the berry. WITH.—*Blossoms* pale green, shorter than the empalement, longer than the chives. *Shafts* shorter than the chives, and longer than the berry. *Herb*

Herb Paris. Truelove. One-berry.

Woods and shady places. [Wood near the Devil's Den near Clifton upon Teme, Worcesterfh. Mr. BALLARD. ST.—Woods on fides of Breedon Hill, Worcesterfh. NASH.—Ripton Wood. Huntingdonfhire. In Norfolk, rare. Mr. WOODWARD.—Love Lane, near Derby. Mr. WHATELY.—About Frankly, Worcesterfhire. WITH.] P. May. June.

The leaves and berries are faid to partake of the properties of Opium. The juice of the berries is ufeul in inflammations of the eyes. Linnæus fays the roots will vomit as well as Ipecacuanha, but it muft be given in a double quantity.

Goats and Sheep eat it. Cows, Horses, and Swine refufe it. LINN.—The berries give out on infufion in water a purplifh red, which an acid turns to a bright florid red, and an alkali to a bluiſh green. ST.

543. ADOX'A. Moschatel.

EMPAL. Cup beneath; cloven; flat; permanent.

BLOSS. 1 petal; with 4 clefts; flat; *ſegments* egg-shaped; ſharp; longer than the cup.

CHIVES. *Threads* 8; awl-shaped; as long as the cup. *Tips* roundiſh.

POINT. *Seed-bud* beneath the receptacle of the bloſſom. *Shafts* 4; ſimple; upright; as long as the chives; permanent. *Summits* ſimple.

S. VESS. Berry globular; between the cup and the bloſſom; the cup being connected with the under ſide of the berry; of 4 cells; dimpled at the end.

SEEDS ſolitary; compressed.

ESS. CHAR. *Empalement* beneath; cloven into 2. *Bloſſom* with 4 or 5 clefts; above. *Berry* with 4 or 5 cells; united with the empalement.

OBS. Such are the characters of the terminating flowers; but the lateral flowers have bloſſoms with 5 clefts, 10 threads, and 5 pointals.

ADOX'A Moschatellina.—

tuberos

Fl. dan. 94.—Curt. ii. 23.—J. B. iii. 206, cop. in H. ox. iv. 28. 14.

—Walc.—Ger. 933. 10.—Lob. adv. 300. 1, repr. in ic. i. 674.

2, Ger. 1091. 10, and cop. in Park. 326. 6.

Root thread-shaped, naked, with 1 or 2 ſcales; ſcales remote, embracing the root, very blunt. Bud of 2 valves; valves egg-shaped,

Vol. I.

Fc

very

very blunt, embracing the stem, alternate, growing together at the base, permanent. *Suckers* solitary, from the bosom of the bud and leaves, descending, striking root. *Root-leaves* generally 4, alternate from 2 rows, doubly 3-fold; *leaflets* lobed, cut, smooth. *Leaf-stalks* channelled. *Stem* of the length of the leaves, undivided, nearly 4-square. *Stem-leaves* 2, opposite, 3-fold; *leaflets* on leaf-stalks. *Leaf-stalks* channelled, running at the base into each other. *Fruit-stalk* quadrangular, bare, terminating. *Head* 4-cornered, composed of 4 flowers in a whorl, with a 5th at the top. *Flowers* green. *Tips* yellow. LINN.—*Root-leaves* triply 3-fold; *leaflets* with 3 lobes, blunt, with a short point, pimpled above, smooth underneath. *Empalement* pointed. *Petal* wheel-shaped, pimpled on the outside. *Lateral Flowers*. *Empal.* clefts 3. *Bloss.* clefts 5. *Chives* 10. *Shafts* 5. LYONS.—*Empalement* sometimes cloven into 3. *Bloss.* wheel-shaped, furrounding the seed-bud somewhat above the middle, where the empalcment expands from it. *Berries* reddish. ST. *Tuberous Moschatel*.

Woods and shady places. [Bungay, Suffolk, very common. Mr. WOODWARD.—Purlieu Lane, Mathon, Worcestersh. Mr. BALLARD.—Between Stone and Mitton, Worcestershire; and between Wolverhampton and Penkridge, Staffordshire. ST.]

Goats eat it. Cows refuse it.

P. Apr. May.

544. ELAT'INE. Waterwort.

EMPAL. *Cup* 4 leaves; circular; flat; as large as the blossom; permanent.

BLOSS. *Petals* 4; egg-shaped; blunt; fitting; expanding.

CHIVES. *Threads* 8; as long as the blossom. *Tips* simple.

POINT. *Seed-bud* large; round; globular; but depressed.

Shafts 4; upright; parallel; as long as the chives.

Summits simple.

S. VESS. *Capsule* large; round; globular; but depressed; with 4 cells, and 4 valves.

SEEDS several; crescent-shaped; upright; furrounding the receptacle like a wheel.

ESS. CHAR. *Empal. leaves* 4. *Petals* 4. *Capsule* 4 cells, 4 valves; depressed.

whorled ELAT'INE *Alfinastrum*. Leaves in whorls.—

Vall. 1. 6.

Leaves 8 to 12 in a whorl. HALL. Mr. WOODWARD.

Waterwort.—Ditches and bogs.

P. Aug.
Clas

Clafs IX.

E N N E A N D R I A.

IX. C H I V E S.

*Order III.**HEXAGYNIA; VI. POINTALS.*

550. BU'TOMUS. Cup none. Blossom 6 petals.
Capsules 6. Seeds many.

† *Hydrocharis Morfus-ranæ.*

*Order III.**HEXAGYNIA; VI. POINTALS.*

550. BU'TOMUS. Gladiole.

EMPAL. Fence simple; of 3 leaves; short.

BLOSS. Petals 6; circular; concave; shrivelling; every other petal standing on the outside, smaller and sharper.

CHIVES. Threads 9; awl-shaped; 6 of them on the outside of the others. Tips composed of 2 plates.

POINT. Seed-buds 6; oblong; tapering; ending in Shafts. Summits simple.

S. VESS. Capsules 6; oblong; gradually tapering; upright; of 1 valve, which opens inwards.

SEEDS many; oblong-cylindrical; blunt at each end.

E c 2

Ess.

Ess. CHAR. *Empal.* o. Petals 6. Capsules 6, containing a number of seeds.

water BUTOMUS *umbellatus*.—

Curt. i. 1.—*Fl. dan.* 604.—*Walc.*—*Ger.* 27. 2.—*Matth.* 1037.—*Dod.* 601. 1, repr. in *Lob. obs.* 44. 2, *Cer. em.* 29. ** 2, and cop. in *Park.* 1197. 1, *H. ox.* xii. 5. row 3. f. 3.—*J. B.* ii. 524.—(*Trag.* 677. 2, cop. in *Lonic.* 173. 3, a totally different plant.)

Root-leaves 3-square, spongy, shorter than the stalk. *Stalk* round. *Flowers* in a rundle. *Fence* sheath-like, of 3 leaves. *Fruit-stalks* to 30, about a finger's length, surrounded at the base with withered membranous sheaths. *Tips* red. *Dust* bright yellow. *Summits* channelled. *Capsule* opening lengthways on the inner side, with 2 lips at the point. *CURT. RELH.*—*Rundle* terminating. *Petals* egg-shaped, whitish red. *Chives* shorter than the petals. *Seed-buds* red. *Summits* cloven (at the point.) *RELH.*—*Tips* shed their dust at different times.—*Empal.* leaves membranaceous, and shrivelled. *Petals* usually pale flesh-coloured, the keel of a deeper hue, soon shrivelling. *Mr. Woodward.*—*Leaves* 3-cornered, very long. *Fence* of 3 brown spear-shaped leaves. *Fruit-stalks* long, thread-shaped, unequal, separated by brown membranaceous leaves. *Threads* placed in a regular circle upon the receptacle, not as in the generic character. *Tips* of 2 cells, reddish. *Dust* yellow. *Seeds* fixed to the sides of the capsules. *Root-leaves* long, narrow. *Stem* cylindrical, naked. *Blossoms* purple and white, terminating, sometimes quite white. *WITH.*

Flowering Rush. Water Gladiol.

Slow streams and muddy ditches. [Side of the River Avon, at *Evesham*, *Worcestersh.* *Mr. Ballard.*—*Bungay*, *Suffolk.* *Mr. Woodward.*—*Stafford* and *Tamworth.* *St. With.*] *P. June.*

Neither Cows, Horses, Sheep, Swine, or Goats will eat it. *LINN.*—It is an ornament to the banks of our rivers and marshy ditches. *Mr. Woodward.*

Class X.

D E C A N D R I A.

X. C H I V E S.

Order I.

M O N O G Y N I A ; I. P O I N T A L.

* Flowers of many equal Petals.

583. MONOT'ROPA. Cup resembling a blossom; bel-
lying at the base. Capsule 5
cells. Seeds many.

592. PY'ROLA. Tips with 2 horns pointing up-
wards. Capsule 5 cells. Seeds
many.

† Gerania.

** Flowers of 1 regular Petal.

593. ANDROM'EDA. Blossom bell-shaped; roundish.
Capsule 5 cells.

596. AR'BUTUS. Bloss. egg-shaped; transparent at
the base. Berry 5 cells.

† Vaccinium Myrtyllus. Chlora perfoliata.

Order II.

D I G Y N I A ; II. P O I N T A L S.

611. SCLERAN'THUS. Bloss. o. Cup with 5 clefts; su-
perior. Seeds 2.

E e 3

608. SAXIF'RAGA.

608. SAXIF'RAGA. *Bloss.* 5 petals. *Cup* with 5 divisions. *Capsule* 1 cell, and 2 bills.
613. SAPONA'RIA. *Blossom* 5 petals. *Cup* tubular; naked at the base. *Capsule* 1 cell; oblong.
614. DIAN'THUS. *Blossom* 5 petals. *Cup* tubular; ically at the base. *Caps.* 1 cell; oblong.

† Chrysofplenium. Agrimonia Eupatoria.

Order III.

TRIGYNIA; III. POINTALS.

618. ARENA'RIA. *Capsule* 1 cell. *Petals* entire; expanding.
617. STELLA'RIA. *Capsule* 1 cell. *Petals* divided almost to the base; expanding.
615. CUCU'BALUS. *Capsule* 3 cells. *Petals* cloven. *Mouth* naked.
616. SILE'NE. *Capsule* 3 cells. *Petals* cloven. *Mouth* crowned.
619. CHERLE'RIA. *Capsule* 3 cells. *Honey-cups* like petals; smaller than the empalement.

† Sambucus Ebulus. Alfine.

Order V.

PENTAGYNIA; V. POINTALS.

628. COTYLE'DON. *Capsules* 5, with a honey-cup to each. *Blossom* 1 petal.
629. SE'DUM. *Capsules* 5, with a honey-cup to each. *Blossom* 5 petals.

638. SPER'GULA.

638. SPER'GULA. Caps. 1 cell. *Petals* entire. *Cup*
5 leaves.
637. CERAS'TIUM. Caps. 1 cell. *Petals* cloven. *Cup*
5 leaves.
635. AGROSTEM'MA. Caps. 1 cell; oblong. *Cup* tubu-
lar; like leather.
636. Lych'NIS. Caps. 3 (1 or 5, ST.) cells; ob-
long. *Cup* tubular; membra-
naceous.
634. OX'ALIS. Capsule 5 cells; angular. *Bloss.*
somewhat connected at the
base.

† *Arenaria media*. *Cucubalus Behen*. *Gerania*. *Adoxa*
moschatellina.

Order VI.

POLYGYNIA; MANY POINTALS.

† *Ranunculus hederaceus*.

Order I.

MONOGYNIA; I. POINTAL.

583. MONOT'ROPA. Birds-nest.

EMPAL. none, unless you call the 5 outermost coloured petals the cup.

BLOSS. *Petals* 10; oblong; nearly parallel and upright; ferrated towards the point; deciduous; the outermost, which are every other, bellied at the base, hollow within, and containing honey.

CHIVES. *Threads* 10; awl-shaped; upright, simple. *Tips* simple.

POINT. *Seed-bud* roundish; tapering to a point. *Shaft* cylindrical; as long as chives. *Summit* a blunt knob.

S. VESS. *Capsule* egg-shaped; blunt; with 5 angles, and 5 valves.

SEEDS numerous; chaffy.

ESS. CHAR. *Empal.* 0. *Petals* 10; the 5 outermost of which are hollowed out at the base, and contain honey. *Capsule* 5 valves.

Obs. Such are the generic characters of the terminating flower. But, if there are any lateral flowers, they contain 1-5th part less in number.

Primrose-scented MONOT'ROPA *Hypop'ithys*. Lateral flowers with 8, the terminating flowers with 10 chives.—

Fl. dan. 232.—*H. ox.* xii. 16. 13, in flower, 20, in fruit.—*Pluk.* 209. 5.—[*Plot oxf.* 9. 6, as after flowering for the withered chives often remain surrounding the capsule. *Mr. Woodward.*]

Spike when in flower nodding, when in fruit upright. *Mr. Woodward.*—The whole plant smells sweet, and is of a pale yellow colour, which peculiarity is generally confined to parasitical plants, and those that grow in very shady situations.

Birds-nest, smelling like Primrose roots.

Woods, growing on the roots of other plants. In Oxfordshire, Bedfordshire, Bucks, Berks, and the Beech Woods of Suffex. [Shottisham, Norfolk. *Mr. Crowe.*—In a Pine Grove, Stoke, Norfolk. *Mr. Woodward.*—Lord Stamford's Woods, at Enville, Staffordshire. *With. and St.*]

P. July.
The

The country people in Sweden give the dried plant to cattle that have a cough.

593. ANDROM'EDA. Moorwort.

EMPAL. *Cup* with 5 divisions; pointed; very small; coloured; permanent.

BLOSS. 1 *petal*; bell-shaped; with 5 clefts. *Segments* reflected.

CHIVES. *Threads* 10; awl-shaped; shorter than the blossom, to which they slightly adhere. *Tips* with 2 horns; nodding.

POINT. *Seed-bud* roundish. *Shaft* cylindrical; longer than the chives; permanent. *Summit* blunt.

S. VESS. *Capsule* roundish; with 5 angles, 5 cells, and 5 valves; opening at the angles.

SEEDS numerous; roundish; shining.

ESS. CHAR. *Empal.* with 5 divisions. *Blossom* egg-shaped; *mouth* with 5 clefts. *Capsule* 5 cells.

OBS. The blossom in some species is egg-shaped, but in others truly bell-shaped, and the tips are either with or without awns.

LINN.—In the *A. Dabæcia* there is one fifth of the parts of fructification less. REICH.

ANDROM'EDA *Polifolia*. Fruit-stalks incorporated. *Rosemary*
Blossoms egg-shaped. Leaves alternate, spear-shaped, rolled back at the edges.

Fl. lapp. 1. 2, under surface of the leaves best done.—*Pluk.* 175. 1, upper surface of the leaves the best done.—*Park.* 76. 7.—*Walc.*—

Fl. dan. 54.—*J. B. i. a.* 227. 1.—*Buxb.* v. 55. 1.—*Ray ed.* i. 1. 1.

Tips awned. LINN.—*Shaft* white. *Summit* purple. WITH.—*Blossoms* tinged with red.

Marsh Gistus. *Wild Rosemary.* *Poley Mountain.* *Moorwort.* *Marsh Holy Rose.*

Turf bogs. *Yorkshire, Cheshire, Lancashire, Westmoreland, Cumberland, and Scotland.* [Bogs about *Halifax, Yorkshire.* Mr. CROWE.] *S. June.*

ANDROM'EDA *Dabæcia*. Flowers in bunches, *Irish*
pointing one way, Blossoms with 4 clefts, egg-shaped. Leaves alternate, spear-shaped, rolled back.—

Fet. gaz. 27. 4.

Bunch

Bunch terminating, simple. *Flowers* alternate. *Pedicles* with 1 flower, somewhat clammy. *Floral-leaf* strap-shaped, at the base of each pedicle. *Empalement* of 4 leaves, awl-shaped, upright, purplish, only a 4th part as long as the blossom, falling off. *Blossoms* violet, cylindrical-oval, twice as large as that of the *Andromeda polifolia*,; *mouth* a little contracted, with 4 clefts; *segments* bent back. *Chives* 8. *Threads* white. *Tips* as long as the threads, just shorter than the blossom, brown, arrow-shaped, without horns, lopped at the end with 2 orifices. *Shaft* thread-shaped, as long as the blossom. *Summit* blunt, slightly cloven into 4. *Fruit* a capsule of 4 cells, and 4 valves. It has the habit of *Andromeda*, but the numbers of *Erica*. LINN.—*Stem* downy, with also numerous expanding hairs. *Leaves* above shining, dark green, with a few long hairs near the edges; underneath white with a thick down; those towards the bottom egg-spear-shaped, the upper spear-shaped. *Flower-scales* small, 1 at the base of each fruit-stalk. MR. WOODWARD.—Whole *plant* thick set with hairs terminating in globular heads. *Leaves* dark green on the upper surface, but underneath white with woolliness. *Empalement* of 1 leaf, permanent, deeply divided into 4 spear-shaped segments. *Blossoms* flattened at the base, and marked lengthways with 4 slightly elevated ridges; *segments* spear-shaped, waved at the edge, rolled back. *Chives* somewhat shorter than the blossom. *Tips* rather longer than the threads. *Dust* white. *Seed-bud* egg-shaped, beset with white bristles terminating in little knobs. *Shaft* bristly at the base, but smooth above. *Summit* reddish, blunt, marked with 4 hollow dots at the end. ST. WIRTH.—From the empalement it is clearly an *Andromeda*, and not an *Erica*, as Mr. Hudson continues to regard it. *Bloss.* purple, at the very base white. SR.

Irish Worts.

Spongy wet uncultivated land on the mountains of Mayo and Hiar Connacht. RAY.

S. June. July.

596. AR'BUTUS. Strawberry-tree.

EMPAL. *Cup* with 5 divisions; blunt; very small; permanent.

BLOSS. 1 *petal*; egg-shaped; flattish at the base; *mouth* with 5 clefts; *segments* blunt; rolled back; small.

CHIVES. *Threads* 10; awl-shaped, but distended; very slender at the base; half as long as the blossom, and fixed to the margin of its base. *Tips* slightly cloven; nodding.

POINT. *Seed-bud* nearly globular; sitting upon the receptacle, which is marked with 10 dots. *Shaft* cylindrical; as long as the blossom. *Summit* rather thick and blunt.

S. VESS. *Berry* roundish; with 5 cells.

SEEDS small; of a bony hardness.

ESS. CHAR. *Empal. divisions* 5. *Blossom* egg-shaped; transparent at the base. *Berry, cells* 5.

AR'BUTUS *Un'edo*. Stem tree-like. Leaves smooth, *common* bluntly serrated. Panicle terminating. Berries with many seeds.—

Hunt. Evel. 373.—*Mill.* 43. 1 and 2.—*Clus.* i. 47. 2, repr. in *Dod.*

804. 2, *Lob. obs.* 571, *Ger. em.* 1496, and cop. in *Park.* 1490.

1, and *J. B. i. a.* 83.—*Matth.* 270, cop. in *Ger.* 1310. 2.—

Lonic. i. 56. 1.

Berries rough with tubercles formed by the seeds. LINN.—*Stem*, serratures of the *Leaves* and *Flower-scales* coloured. *Empal.* segments lapping over each other, coloured at the points. *Blossoms* greenish white, a little hairy within. *Threads* very hairy, about the middle very thick and pulpy. *Tips* reddish-scarlet, double, opening at the base, with 2 yellow horns. *Seed-bud* beset with glands. *Berries* red. WITH.

In the West of Ireland; in the county of Kerry; near the Lake of Killarney. RAY. [MR. CROWE.]—On barren limestone rocks.

S. Sept. [Nov. at Birmingham. WITH.]

It is a beautiful ornament to our shrubberies, not only on account of its foliage and flowers, but of its fruit, which is pleasing to the eye, though not grateful to the taste. The country people, however, in Ireland, eat it, but always drink water after.

AR'BUTUS *alpina*. Stems trailing. Leaves mountain wrinkled, serrated.—

Fl. dan.

Fl. dan. 73.—*Lightf.* 11. *a. b.* at p. 216.—*Clus.* i. 61, *cop. in Ger.*
em. 1417. 4, and *Park.* 1456. 3.—*Ger.* 1230. 4.—*J. B. i.*
a. 519.

Berries black, globular, fitting upon a very small red cup.

Dry mountains, in Scotland and the Western Isles. S. May.

The berries have something of the flavour of black currants, but they are not so good.—Goats refuse it.

Bearberry AR'BUTUS *Uva-ur'si*. Stems trailing. Leaves
very entire.—

Fl. dan. 33, cop. in Blackw. 592. 2 and 3, with the addition of 1.—

Fl. lapp. 6. 3.—*Lightf.* 11. c. d. at p. 216.—*J. B. i. a.* 523.—

Zanon. 178, serratures too much like hairs.—*Ger.* 1221. 1.—*Clus.*

i. 63. 2, repr. in Lob. obs. 547. 1, Ger. em. 1416. 5, and cop. in Park. 1457. 6, is represented with leaves much larger than any I have ever seen.

Leaves oblong-wedge-shaped, with a net-work of veins underneath, and corresponding wrinkles above. Blossom, mouth very much contracted, tinged with red. Mr. WOODWARD.—Flowers flesh-coloured. Berries red. Leaves not dotted underneath as in *Vaccinium Vilis-idaea*. LIGHTF.—*Vaccinium Ursi*, five *Uva-ursi* apud Clusium. Ger. em. 1416. (Mr. BALLARD.)

Bear-berries. Bear Whortle-berries.

Dry heaths and woods. East Common Wood, near Hexham, Northumberland. Isle of Mull, next to Y-Columb-Kill, growing plentifully for some miles together, where it was first observed by Mr. Llwyd. LIGHTF. S. May. June.

S. May. June.

The berries are infipid, pulpy, and mealy. The plant is much used in Sweden to dye an ash-colour, and to tan leather. Half a dram of the powdered leaves given every, or every other day, has been found useful in calculous cafes. It was first used for this purpose at Montpelier, and afterwards by Dr. de Haen, at Vienna, who relates several cafes, in which it proved of the greatest service. Its success in England has been uncertain. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; whilst, in other calculous and nephritic cafes, the symptoms have been almost entirely removed. Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have long been used by the country people, in gravelly complaints, and with very great advantage; though hitherto unnoticed by the regular practitioners. WITB.

Horses, Cows, Goats, and Sheep refuse it.

593. PY'RO LA. Wintergreen.

EMPAL. *Cup* with 5 divisions; very small; permanent.

BLOSS. *Petals* 5; circular; concave; expanding.

CHIVES. *Threads* 10; awl-shaped; shorter than the blossom. *Tips* large; nodding; with 2 horns pointing upwards.

POINT. *Seed-bud* roundish; angular. *Shaft* thread-shaped; longer than the chives; permanent. *Summit* rather thick.

S. VESS. *Capsule* roundish; depressed; with 5 angles and 5 cells; opening at the angles.

SEEDS numerous; chaffy.

ESS. CHAR. *Empalement* with 5 divisions. *Petals* 5. *Capsule* 5 cells; opening at the corners.

OBS. In some species the threads and shaft are upright, in others declining to one side, and in others again expanding. The shape of the summit is different in different species.

PY'RO LA *rotundifolia*. Chives ascending. Pointal common declining.—

Fl. dan. 110, *cop. in Blackw.* 594.—*Matth.* 982.—*Fuchsf.* 467, *cop. in Trag.* 707, *J. B.* iii. 535, and *Dod.* 138, which repr. in *Ger. em.* 408. 1.—*Ger.* 330. 1.—*Clus.* ii. 116. 3, repr. in *Lob. obs.* 157. 2, improved with the addition of a bunch in fruit in *H. ox.* xii. 10. row 2. 1, and *cop. in Fark.* 508.—*Lonic.* 186.

Blaffons white, on slender fruit-stalks.

Wintergreen.—Woods and groves in the North of England; in the South, rare. Near Halifax, Yorksh. Stoken-church Woods, Oxfordshire. [Hockfall Woods, near Grewelthorpe, Raydale Wood, near Carr-end Wensley Dale, and Tennant's Wood, near Kilnsay, Yorkshire. CURT.—Meadow at Gorleston, Suffolk. Mr. Wigg.] P. June. July.

Goats eat it. Cows, Horses, Sheep, and Swine refuse it.

PY'RO LA *minor*. Flowers in a bunch, scattered. *lesscr* Chives and pointal straight.—

Fl. dan. 55.

Much resembles the *P. rotundifolia*. Stem in both 3-cornered. It is very probable that this plant was first produced by the dust of the *P. secunda*, impregnating the seed-bud of the first species, *Bloss.* reddish white. LINS.—Two flowering stems frequently arise from the

the same root. *Leaves* much smaller than in *P. rotundifolia*. Whole plant smaller and weaker. Mr. WOODWARD.

Woods. Near Clapham, Yorkshire. Highlands, and Isle of Skye. [Near Tring, Herts. Mr. WOODWARD.] P. June. July.

ferrated PY'ROLA *secunda*. Flowers in a bunch, from one side.—

Fl. dan. 402.—*Clus.* ii. 117. 1, repr. in *Ger. em.* 408. 2, and cop.

in *J. B.* iii. 536. 1, *Park.* 509. 3, and *H. ox.* xii. 10. row 2. 4.

The chives project beyond the blossom, and the summit beyond the chives. *Blossoms* white.

Woods. Haslewood, near Sir Walter Vavasor's Park, Yorkshire.

P. Hudson. S. Linn. June.

Goats eat it. Sheep refuse it.

Order II.

DIGYNIA; II. POINTALS.

608. SAXIF'RAGA. Saxifrage.

EMPAL. *Cup* 1 leaf; with 5 divisions; short; sharp; permanent.

BLOSS. *Petals* 5; expanding; narrow at the base.

CHIVES. *Threads* 10; awl-shaped. *Tips* roundish.

POINT. *Seed-bud* roundish, but tapering, and ending in 2 short *Shafts*. *Summits* blunt.

S. VESS. *Capsule* somewhat egg-shaped; with 2 bills, and 1 cell; opening between the bills.

SEEDS numerous; minute.

ESS. CHAR. *Empal.* 5 divisions. *Blossom* 5 petals. *Capsule* with 2 bills, 1 cell, many seeds.

OBS. In some species the *Seed-bud* is beneath; in others, it is above. After the flower is open, 2 of the *Chives* opposite to each other, bend down to the *Summits*, and discharge their dust perpendicularly over them. The next day 2 others bend down; and this is continued until they have all done the same.

* *Leaves* undivided. *Stem* nearly naked.

hairy SAXIF'RAGA *stella'ris*. *Leaves* ferrated. *Stem* naked, branched. *Petals* taper-pointed.—

Fl. dan.

Fl. dan. 23.—*Fl. lapp.* 2. 3, root, leaves, and stem.*—*Scop.* 13. n. 492. at p. 290.—*Pluk.* 58. 2.—*ib.* 222. 4, cop. in *H. ox.* xii. 9. 13.—*J. B.* iii. 708. 1.

Leaves close to the root, numerous, oblong-spear-shaped, narrowing downwards, serratures pointed, mostly towards the end. Stem a finger's length, bare. Flowers 3 to 5, on short fruitstalks. Empalement bent back. Petals spear-shaped, tapering each way, white, with 2 oblong tawny spots near the base. Tips purplish. LINN.—Leaves in one or more star-like tufts from each root, wedge-shaped, entire at the base, rather indented at the top, slightly hairy. Stem, 1 from each tuft, slightly hairy. Branches, each having at its base a leaf, spear-shaped, entire, or cloven into 3, and bearing 1 or 2 flowers. Mr. WOODWARD.—Stem-leaves generally 2 together at the base of each branch, sometimes spear-shaped, but generally strap-shaped, and sometimes with a tooth on each side towards the point. ST.

Hairy Kidneywort.

Moist rocks, and by the rills of Snowdon, Carnedd-Llewellyn, and Caderidris, &c. North of England, and in Scotland. [About Buckbarrow Well, Longsledale, Yorkshire. CURT.—Mountains in Lancashire, Westmoreland, and Cumberland. Mr. WOODW.—Between Paterdale and Winander Mere. ST.] P. June. July.

SAXIFRAGA *nivalis*. Leaves egg-shaped, scol- mountain
loped, nearly fitting. Stem naked. Flowers in heads.—

Fl. dan. 28.—*Lightf.* 12. at p. 221.—*Ray* 16. 1, in its most luxuriant state.—*Fl. lapp.* 2. 5 and 6, in its dwarfer and more common state.

Leaves blunt, lying on the ground. Stem somewhat hairy, with a slight tinge of purple. Petals blunt, white. Scarcely is any plant subject to such remarkable variations, in appearance as well as size. Sometimes it is exceedingly small, with heart-shaped leaves, flowers collected into a single head, and a strap-shaped leaf at the base. Sometimes it produces only a single flower on a stalk, and sometimes 2 of these rise from one root. At other times it bears a number of flowers at the top of the stalk, on fruit-stalks disposed in form of a rundle, and sometimes it appears twice as large, with a spike composed of smaller ones as figured in Ray. But in all these states it is easily distinguishable by its leaves reddish underneath, and purplish pointals. LINN.—Root-leaves smooth, in a tuft

* The rest of the figure represents a variety in which the greater part of the flowers run into leafy tufts. ST.

tuft. Stem slightly hairy. Flowers, each with a small floral-leaf, reddish at the point. *Empal.* segments reddish at the point. Mr. WOODWARD.

Summits of the higher mountains of Wales and Scotland.—Glyder Vawr, near Snowdon. PENN. Wales. P. July. Aug.

London Pride SAXIF'RAGA *umbro'sa*. Leaves inversely egg-shaped, somewhat dented at the end. LINN. Mr. DICKENSON.

Mill. 141. 2.—Park. 738, fig. 2d.—par. 233. 5.

Geum folio subrotundo majori, pistillo floris rubro. Tourn. R. fyn. 355.—*Sedum ferrat. fl. rub. maculato.* PARK. par. 232.—*Sedum mont. ferrat. guttato fl.* PARK. 738.—*Cotyledon five Sedum montan. latifol. ferrat. guttato flore ib.* 741. R. hist. 1046. ST.

London Pride. None-so-pretty. Princes Feather.

Mountains of Sligo, and on Mangerton in Kerry, Ireland. P.

** *Leaves undivided. Stem leafy.*

heath-like SAXIF'RAGA *oppositifolia*. Stem-leaves opposite, tiled; the uppermost fringed.—

Fl. dan. 34, stems undivided.—*Fl. lapp.* 2. 1.—*Pet.* 61. 9.—*J. B.* iii. 694. 1, cop. in *H. ox.* xii. 10. 36.

Stems thread-shaped, hanging down, creeping. Leaves from 4 lines, fitting, fringed. Terminating flower solitary, sitting. LINN.—Leaves oval, somewhat running down the stem, in opposite pairs, alternately from each side of the stem, giving the appearance of being quadrangularly tiled, all fringed, sea-green, frequently tinged with purple. *Empal.* purplish, fringed. Petals very blunt, bright purple. Tips purple. Mr. WOODWARD.

Rocks. On the north side of Ingleborough; higher rocks of Snowdon, about Llanberys; Highland mountains, and Isles of Rum and Skye. [Ingleborough and Pennigent. CURT.—This beautiful plant insinuates its roots into every crevice, and, with its numerous trailing branches, clothes, with a rich tapestry, the perpendicular rocks on the west side of the summit of Ingleborough. Mr. WOODWARD.] P. March. April.

marsh SAXIF'RAGA *Hir'culus*. Stem-leaves spear-shaped, alternate, naked, without prickles. Stem upright. LINN.—Leaves pointed. Stem ascending, leafy. HUDS.—Leaves fringed with hairs, but not with thorns or stiff bristles. LINN. fl. suec. RETZ. obs. i. 45.—These hairs sometimes wanting. WIGG.

Fl. dan.

Fl. dan. 200.*—*Breyn. cent.* 48, *cop. in H. ox.* xii. 8. row 2. 6.
a.—*Breyn. ib.* p. 106, *cop. in H. ox.* 6.—*Gmel.* iv. 65. 3.—
Hall. 11. 3.—*Clus. cur.* 6, *repr. in Ger. em.* 1284. 8, and
cop. in Park. 656, *figure the lowest, and H. ox.* xii. 8. 5.

Stem purple, simple, generally with 2 or 3 flowers. *Fruit-stalks* downy. *Empalement* bent back. *Leaves* not fringed. *Petals* ribbed, yellow, with tawny dots, towards their base an oblong hollow or chink of 2 valves, with pointed ends, containing honey. LINN. mant. ii.—*Root-leaves* spear-shaped. *Stem-leaves* strap-shaped, in an alpine specimen elliptical. In none of my specimens are the *fruit-stalks* without down, as in the figures of Haller and Gmelin, though in the alpine specimen they are somewhat less downy. RETZ.—*Stems* simple, somewhat woody, beneath the flowers very hairy. *Leaves*, the lower on short fruit-stalks, the upper sitting. *Flowers* 1 or 2, large, yellow. *Petals* oval, which as also the segments of the empalement are marked with several nearly parallel ribs, which clearly distinguishes it from the *S. autumnalis*. Mr. WOODWARD.

Turf bogs. Knutsford Moor, Cheshire. RAY and LIGHTF. who first ascertained it to be the *S. Hirculus* P. July. Aug.

SAXIFRAGA *autumna'lis*. *Stem-leaves* strap-shaped, *autumnal* alternate, fringed. *Root-leaves* incorporated.—

Clus. ii. 60. 3, *repr. in Ger. em.* 516. 2, and *cop. in Park.* 737. 7, *J. B.* iii. 693. 2, *Pet.* 61. 10, *H. ox.* xii. 6. row 2. 3. f. 5, has most of the true habit.—*Scop.* 14, at p. 214.—*Fl. dan.* 72.—*H. ox.* xii. 6. row 2. 3. f. 5.—(*H. ox.* xii. 8. 6, is a copy of *Breyn.* fig. of *P. Hirculus*.)

Empalement far shorter than the blossom, green. *Flowers* beneath. LINN.—*Leaves*, hairs at the edge sometimes numerous, sometimes few, and sometimes altogether wanting. JACQ.—*Hairs* at the edge of the leaves more properly minute prickles. RETZ.—*Root-leaves* matted. *Stems* numerous, ascending. *Stem-leaves* numerous, strap-spear-shaped, scattered, half embracing the stem, sometimes with a few hairs at the edge, but oftener without. *Fruit-stalks* many, from the bosom of the leaves, of various lengths, the lower ones longest; generally with 1 flower. *Flower-leaves* 2 on each fruit-stalk. *Empalement* nearly as long as the blossom. *Petals* blunt, yellow, spotted. *Tips* yellow. Mr. WOODWARD.

* The hairs at the edge of the leaves represented too like the little prickles of the *S. autumnalis*. RETZ.

S. aizoides and *autumnalis* seem to be one and the same plant. JACQ. LIGHTF. HUDS. and RETZ.—Our plant is, without doubt, the *S. aizoides*; but, when I find Linnæus describing “the em-palement” of the *S. autumnalis* as “far shorter than the blossom,” and retaining his reference to *H. ox.* though a copy of Breyn. fig. of *S. Hirculus*, I am induced to suspect his *S. autumnalis* to be the variety of *S. Hirculus* with fringed leaves, rather than a variety of *S. aizoides*. In confirmation of this, it may be observed, that in the 1st edition of the Fl. suec. the *S. Hirculus* is characterised as having fringed leaves, in the 2d, the character is altered, but it is still described as fringed, and in the Sp. pl. the leaves are expressly said *not to be fringed*. ST.

Ingleborough Hill, and in Westmoreland. Beeston Castle, Cheshire; [and in Long Sledale and Whitfell Gill, near Askrig, Yorkshire. CURT.—Bogs on mountains in the northern counties. Mr. WOODWARD.] P. July. Aug.

*** Leaves gashed. Stems upright.

white SAXIFRAGA *granulata*. Stem-leaves kidney-shaped, gashed. Stem branched. Root beaded.—

Curt. i. 9.—Fl. dan. 514.—Mill. ill.—Ludw. 120.—Walc.—Matth. 978.—Fuchs. 747, cop. in J. B. iii.—Dod. 316. 1, repr. in Lob. obs. 335. 2, Ger. em. 841. 1, and cop. in Park. 424. 1 and 2, and H. ox. xii. 9. 23.—Ger. 693. 1.—Träg. 525, cop. in Lonic. i. 220. 1.—Blackw. 56.

Root consisting of several tubercles crowded together. Seed-bud beneath. LINN.—Branches without leaves. Cyp a little hairy. Blossoms white.

White Saxifrage.

Dry meadows and pastures. Near Wandsworth. [Bevere, near Worcester. ST.] P. April. May.

Goats eat it. Cows, Sheep, Horses, and Swine refuse it.

rug-leaved SAXIFRAGA *tridactylites*. Stem-leaves wedge-shaped, alternate, with 3 clefts. Stem upright, branched. Leaves in very dry situations sometimes undivided.—

Curt. ii. 22.—Walc.—Sheldr. 24.—H. ox. xii. 9. 31.—Ger. 499. 3, cop. in Pet. 61. 8.—Scop. 16. 499.—Blackw. 212.—(Dod. 112. 3, repr. in Lob. obs. 249. 3, Ger. em. 624. 2, and cop. in Park. 556. 4 & 4, seems dubious as having leaves nearly toothed.)

The whole plant is set with hairs which pour out a clammy liquor at their points. Chives discharge their dust as in observation on the genus. LINN.—Flant reddish, hairy. Hairs clammy. Stem 8 inches high, cylindrical, branched. Root-leaves on leaf-stalks, with

with 5 lobes, fleshy, edge very entire. *Stem-leaves* fitting, the uppermost spear-shaped. *Fruit-stalks* thread-like, with 1 flower. *Petals* white, egg-shaped. **LYONS.**—Turns red after flowering. *Hairs* terminating in globules. *Stems* forked, in some situations trailing. *Root-leaves* tapering down into flat leaf-stalks. *Stem-leaves* fitting, the upper, and sometimes all above the first branches, spear-shaped and opposite. *Fruit-stalks* with single flowers, from the bosom of the leaves. *Empal.* mouth with 5 egg-shaped clefts. *Petals* egg-shaped, but little longer than the segments of the empalement; white. *Tips* yellow. *Summits* spear-shaped. *Capsule*, cells 2. **WITH.**

Rue Willow-grass.

Walls, roofs, and amongst rubbish. A. Apr. [and May. **WITH.**]

It was formerly infused in beer, and drank for a long time was said to cure the King's Evil.

SAXIF'RA GA *cæspitosa*. Root-leaves incorporated, *matted* strap-shaped, entire, or with 3 clefts. Stem upright, nearly naked, with mostly 2 flowers.—

Gunn. ii. 7. 3 and 4.—*Scop.* 14. 494. at p. 214.—*Hall. opusc. it. helv.* 1. 1. at p. 300.—(*Fl. dan.* 71,* as believed by Oeder.—*J. B.* iii. 762. 2, is *S. hypnoides*.)

Plant smooth, except the upper branches, which are clammy. *Root-leaves* clustered into a turf, wedge-shaped, blunt, with divisions, running down into strap-shaped leaf-stalks. *Stem* of a finger's length, almost naked, with 2 or 3 strap-shaped, undivided leaves. *Flowers* 1, sometimes 2, terminating, of the larger size. *Petals* blunt, of a whitish greenish hue, turning yellowish in drying, [yellow, *syft. veg.*] scored. **LINN.**—*Empalement* also clammy. **Mr. WOODWARD.**

Mountains above Ambleside, Westmoreland. P. July. Aug.

**** *Leaves gashed. Stems trailing.*

SAXIF'RA GA *hypnoides*. Stem-leaves strap-shaped, *Moss* entire, or cloven into 3. Suckers trailing. Stem upright, rather naked.—

Fl. dan. 348, foliage too luxuriant.—*H. ox.* xii. 9. 26, habit of the barren stems better expressed.—*J. B.* iii. 762. 2.—*Park.* 739, ill done, unless some other species.—(*Scop.* 16. 499. at p. 296, is *S. tridactylites*.)

* Flowers much larger. **HALL.** **Mr. WOODWARD.**—Seems a different plant. Leaves broad, with many clefts. **Mr. WOODWARD.**

Plant clammy. Leaves on long leaf-stalks. Suckers sometimes producing buds. LINN.—Stem smooth. Leaves hairy. Mr. Woodward.—Stem, fruit-stalks, and empalement thickly set with short hairs, terminated by minute red globules; the rest of the plant thinly set with fine white hairs. Upper-leaves, both of the stem and trailing suckers, generally entire; the lower frequently cloven into 3. Petals marked with 3 green lines, slightly cloven at the end. Summits broad and flat, but pointed and bent back. Seed-bud top-shaped. WITH.—Whole plant becomes reddish when fully grown. Empalement green. Bloss. greenish white. Chives yellow.

Ladies Cushion by the gardeners.

Rocks and high mountains. Snowdon, and other mountains in Wales, Westmoreland, Yorkshire, Derbyshire, Malham Cove, Cheddar Rocks. [About Settle. CURT.—Dovedale, Derbyshire, and northern counties. Mr. Woodward.—Middleton Dale, Derbyshire. Mr. WHATELY.] P. May.—July.

It is cultivated in our gardens as an edging for borders.

A Horse refused it. ST.

611. SCLERAN'THUS. Knawel.

EMPAL. *Cup* 1 leaf; tubular; with 5 shallow clefts; sharp; permanent; narrow at the neck.

BLOSS. none.

CHIVES. *Threads* 10; awl-shaped; upright; very small; fixed to the cup. *Tips* roundish.

POINT. *Seed-bud* roundish. *Shafts* 2; upright; hair-like; as long as the chives. *Summits* simple.

S. VESS. *Capsule* egg-shaped; exceedingly thin; in the bottom of the cup; which closes at the neck.

SEEDS 2; convex on one side, and flat on the other. (1. LEERS. ST.)

ESS. CHAR. *Empalement* 1 leaf. *Bloss.* o. *Seeds* 2; inclosed by the empalement.

annual SCLERAN'THUS *an'nuus*. Empalements open when the fruit is ripe. LINN.—Segments tapering to a point. ST.*

Il. dan. 504.—*Trag.* 393, *cop. in Lonic.* i. 169. 1.—*Ger. em.* 506. 4, *cop. in Park.* 447. 7.—*Ger.* 452. 2, *cop. in Pet.* 9. 6.—(*Pet.* 9. 7, with Haller I refer to *S. perennis*.)

* *Acuminatis*. ST.

Seed 1. HALL. LEERS. ST.—*Empal.* segments with an exceedingly narrow, whitish, membranaceous margin. *Chives* 5 or 7, very short. LEERS. ST.—*Chives* fewer than 10. HALL. ST.—*Branches* in pairs, constantly downy. *Leaves* at the joints of the stem and branches, opposite, awl-shaped, slightly joined together at the base, bellying below, with membranaceous and downy edges, smooth above. *Flowers* in clusters at the end and divisions of the branches, fitting. *Empalement* downy at the base; segments awl-shaped, smooth. MR. WOODWARD.—*Empalement* bell-shaped, cloven more than half way down, marked below with 10 elevated ribs, when the seed is ripe acquiring a bony hardness; *segments* while in blossom slightly open, after the dust is shed expanding, when the fruit is ripe, open. *Chives* 6 to 9, generally 8, unequal, 2 or 3 of them twice as long as the rest and producing dust, the rest barren. *Shafts* white. *Seed* egg-shaped. ST.—*Flowers* at the base of the leaves, greenish.

German Knot-grafs. Knawell.

Sandy ground and corn fields.

A. July. Aug.

The Swedes and the Germans receive the vapour arising from a decoction of it into their mouths, to cure the tooth-ach.

Goats and Sheep eat it. Cows refuse it.

SCLERAN'THUS *peren'nis*. *Empalements* closed *perennial* when the fruit is ripe. LINN.—*Segments* oblong, rounded at the point. ST.†

Ray 5. 1. at p. 160.—*J. B.* iii. 378. 1, cop. in *H. ox.* v. 29.* row 1. f. 2, but petals made pointed.—*Ger.* 453, cop. in *Ger. em.* 567. 5, *Park.* 427. 2, and *Pet.* 9. 7.—*Fl. dan.* 563, and *Vaill.* 1. 5, may be good figures of it in some of its states, but are not happy representations of what specimens I have seen.—(*Ray* *ib.* a. is a good representation of the *empalement* of *S. annuus*.—*Gmel.* iii. 6. 1 and 2, is a distinct species.)

Leaves bowed, strap-shaped, very narrow, broader at the base. *Flowers* crowded together at the top of the stems. *Empal.* whitish, with a green line running along the segments; *segments* upright, not quite closed, but not so open as in the *S. annuus*. HALL. ST.—*Empal.* segments blunt, with whitish membranaceous borders. *Seed* 1, as that of *S. annuus*. LEERS. ST.—*Plant* often reddish. *Branches* sometimes, but not always downy, thickly set with leaves. *Leaves* broader and shorter than those of the *S. annuus*, opposite, frequently pointing one way, sea-green, fringed with down at the

† Rotundatis. ST.

edge, the rest smooth, bellying and membranaceous below, slightly joined at the base. *Flowers*, some at the divisions of the stem, but mostly in terminating bunches, sitting. *Empalement* smooth, sea-green with white edges, blunt. Mr. WOODWARD.—*Empal.* segments concave. *Chives* 10. ST.

Sandy corn fields. Elden, Suffolk. [Snetisham, Norfolk. Mr. CROWE.—Bury, Suffolk. Mr. WOODWARD.] P. July. Aug.

The Polish cochineal, *Coccus polonicus*, is found upon the roots, in the summer months.

Sharp-fruited SCLERAN'THUS *polycar'pos?* Empalements widely expanded when ripe, thorny. Stem somewhat woolly.—

Said to have been found at Broomholm, near Longholm, Eskdale. LIGHTF.—The description communicated to Mr. L. See *Fl. scot.* p. 1135, accords with that in the *Amæn. acad.* ST.

613. SAPONA'RIA. Soapwort.

EMPAL. *Cup* 1 leaf; tubular; with 5 teeth; permanent. BLOSS. *Petals* 5; *claws* narrow; angular; as long as the cup; *border* flat; *limbs* broader towards the end; blunt.

CHIVES. *Threads* 10; awl-shaped; as long as the tube of the blossom; every other chive fixed to the claws of the petals; 5 of them shedding their dust later than the others. *Tips* oblong; blunt; fixed sideways to the threads.

POINT. *Seed-bud* somewhat cylindrical. *Shafts* 2; straight; parallel; as long as the chives. *Summits* sharp.

S. VESS. *Capsule* as long as the cup; cylindrical; of 1 cell; covered.

SEEDS many; small. *Receptacle* loose.

ESS. CHAR. *Empalement* 1 leaf; naked, (that is without scales at the base.) *Petals* 5; with claws. *Capsule* oblong; 1 cell.

common SAPONA'RIA *officina'lis*. Empalements cylindrical. Leaves egg-spear-shaped.—

Curt. ii. 17.—*Fl. dan.* 543.—*Dod.* 179, repr. in *Lob. obs.* 170. 2, *Ger. em.* 444, and cop. in *Park.* 641. 1, and *H. ox.* v. 22. 52.—*Blackw.* 113.—(*Fuchs.* 780, cop. in *J. B.* iii. 346, and *Lonic.* i. 76. 3, a totally different plant.)

Leaves

Leaves fitting, opposite, 3-fibred. *Empalements* coloured. WITH.
—*Flowers* terminating. *Blossoms* flesh-coloured, or white.

Bruisewort.

Meadows and hedges. On Black Heath. Near Morden College, Kent. [Norfolk, not unfrequent. Mr. WOODWARD.—Hedges near Hanley, Worcesterfh. Mr. BALLARD. ST.—On the brink of the river below Preston, Lancashire. Mr. SAVILLE.]

P. July. Aug.

The whole plant is bitter. Bruised and agitated with water it raises a lather like soap, which washes greasy spots out of cloaths. A decoction of it applied externally cures the itch. The Germans use it instead of Sarsaparilla in venereal complaints. M. Andry, of Paris, cures virulent Gonorrhœas, by giving half an ounce of the inspissated juice daily. WITH.

A horse refused it. ST.

β. hybrida. A singular variety like another *Petoria Antirrhini*, in hollow leaved which it changes into a kind of *Gentian*, with a blossom of 1 petal.

Found by Gerarde, in a wood called the Spinnic, near Lichbarrow, in Northamptonshire; but Morton informs us it is no longer to be met with there, not being capable of propagating itself by seed. It is possibly, however, still preserved in the gardens of the curious. It seems to be a mule produced between the *Saponaria* and the *Gentiana*, the dust of the latter falling upon the pointals of the former. LINN.

2. *Leaves* running into 1. *Bloss.* whitish, of a pale flesh-colour at the edge. RAV.—*Leaves* egg-shaped, those beneath the flowers stem clasping. *Empalement* sheath-like, ragged at the mouth. *Bloss.* twice as long, with a number of short teeth, accompanied sometimes with green leaves. Specimens from the herbarium of C. B. and Mr. Hudson. HALL.

Ger. 353, cop. in J. B. iii. 521. 2, and H. ex. v. 53.—Park. 641.

Saponaria concava anglica convoluto folio. Park. 641.—*Gentiana concava.* Ger. em. 435. (ST.)

614. DIAN'THUS. Pink.

EMPAL. *Cup* cylindrical; tubular; scored; permanent; with 5 teeth at the mouth, and encompassed at the base with 4 scales, 2 of which are opposite, and lower than the other 2.

BLOSS. *Petals* 5; *claws* as long as the cup; narrow; fixed to the receptacle; *limbs* flat; broadest towards the end; blunt; scolloped.

CHIVES. *Threads* 10; awl-shaped; as long as the cup; standing wide towards the top. *Tips* oblong-oval; compressed; fixed sideways to the threads.

POINT. *Seed-bud* oval. *Shafts* 2; awl-shaped; longer than the chives. *Summits* curled; taper.

S. VESS. *Capsule* cylindrical; covered; 1 cell; opening at the top in 4 directions.

SEEDS many; compressed; roundish. *Receptacle* loose; 4-cornered; only half as long as the seed-vessel.

ESS. CHAR. *Empalement* cylindrical; of 1 leaf; with 4 scales at the base. *Petals* 5; with *claws*. *Capsule* cylindrical; of 1 cell.

Obs. In some species the *Shafts* are but little longer than the chives; in others very long, but rolled back.

* *Flowers incorporated.*

Sweetwilliam

DIAN'THUS *barbatulus*. Flowers incorporated, in bundles. Scales of the empalement egg-awl-shaped, as long as the tube. *Leaves* spear-shaped.—

Renealm. 47.—*β.* *Clus.* i. 287. 1, repr. in *Dod.* 176. 2, *Ger. em.*

598. 4.—*Ger.* 479. 4.

[Limestone Wall, at King's Weston, near Bristol. ST.]

P. June.

Deptford

DIAN'THUS *Armeria*. Flowers incorporated, in bundles. Scales of the empalement spear-shaped, woolly, as long as the tube.—

Fl. dan. 230.—*J. B.* iii. 335. 2, excellent, copied from an unpublished figure of *Fuchsius*.—*Lob. ic.* i. 448. 2, repr. in *Ger. em.*

594. 11, cop. in *H. ox.* v. 25. 20, and *Pet.* 56. 5.—*Seguier.*

i. 7. 4, flower and leaf.—*Math.* 579, blossoms too large.

Petals taper-pointed, with 1 or 2 teeth. *LINS.*—red.

Gravelly meadows and pastures. Charlton Wood, and other places in Kent. Near Croydon. [Norfolk, frequent. Mr.

WOODWARD.—

WOODWARD.—About Perfhore and Eckington. Worcestershire.
 NASH.—Near Ketley, Shropshire, in gravel, and Clarkton Leap,
 near Worcester, in marle. ST.] A July.

DIAN'THUS *prolifer*. Leaves incorporated, in *proliferous*
 heads. Scales of the empalement egg-shaped, blunt,
 without awns, extending beyond the tube.—

Fl. dan. 221.*—*Seguier.* i. 7. 1.—*J. B.* iii. 335. 1.—*Lob. ic.* i.
 450. 1, repr. in *Ger. em.* 599. 5, and cop. in *Park.* 1338. 1.—
H. ox. v. 25. 21, single head.

Stem usually simple, upright, slender. Leaves in pairs at each
 joint, awl-shaped. Heads on the summit of the stem. Flowers
 nearly concealed by the scales of the empalement, opening one at
 a time for a considerable time in succession. Mr. WOODWARD.—
 Blossoms red, sometimes white. They expand about 8 in the morn-
 ing, and close about 1 in the afternoon.

Childing Sweet Williams. *Childing Pinks.*

Sandy meadows and pastures. Selfey Island, Suffex. [Near
 Norwich. Mr. WOODWARD.—In a marle pit Landridge Hill;
 Hanley Castle, Worcestersh. Mr. BALLARD.] A. July.

Cows and Sheep eat it.

* * Flowers solitary; several on the same stem.

DIAN'THUS *Caryophyllus*. Flowers solitary. Scales *Carnation*
 of the empalement nearly egg-shaped, very short. Blossoms
 scalloped.—

Blackw. 85.—*Dod.* 174. 3, repr. in *Ger. em.* 590, and *Swert.* ii.
 18. 7.

Carnation. *Clove Pink.* *Clove July Flower.*

β. HUDS. *Ger.* 591. 1.—*Ger.* 474. 2.†—*Pet.* 56. 1.

Caryophyllus simplex, flore minore pallide rubente. R. syn. 336. (ST.)

Common Pink. RAY.—*Single Red Pink.* GER. em. ST.

Old walls. Rochester, Deal, Sandown, and other castles,
 plentifully. RAY. HUDS. P. July.

DIAN'THUS *deltoi'des*. Flowers solitary. Two *maiden*
 scales to each empalement, spear-shaped. Blossoms scol-
 loped. LINN.—Scales egg-shaped, taper-pointed. LYONS. ST.

* Blossoms too large. Mr. WOODWARD.

† This is referred by C. B. to his *Caryophyllus simplex*, flore minore pallide
 rubente, which Mr. Hudson makes a variety of *D. Caryophyllus*. But, to omit
 other marks of distinction, the leaves of the *Red Pink* are microscopically serr-
 ated, those of the *D. Caryophyllus* quite entire. ST.

Fl. dan.

Fl. dan. 577.—*Chif.* i. 285. 1, repr. in *Lob. ic.* 444. 1, *Ger. em.* 593. 6, and cop. in *Pet.* 56. 2.—*J. B.* iii. 329. 4.—(*Ger.* 477. 10, seems to be *D. Glaucus*.)

Root slender, long, with a few fibres. *Barren stems* numerous, reclining, throwing out roots; *flowering stems* 6 to 8 inches high, cylindrical, slender, weak, jointed. *Leaves* very narrow, in opposite pairs, embracing the stem; those of the barren branches narrower, not much pointed. *Flowers* 2 or 3 on a stem. *Blossoms* reddish, with a ring of deeper coloured dots surrounding the eye. *Seeds* chaffy, brown. It flowers during the summer and till autumn. *RAY*.—*Leaves* greener, somewhat hairy, like those of *Hyssop*, but smaller. *Empal.* scales taper-pointed, (cuspidatæ.) *Flowers* appearing later than those of *D. glaucus*, that is, about June and July, at which time the *glaucus* is out of blossom. *Blossoms* of a deeper colour. *DILL*. *Mr. Woodward*.—With numerous silvery dots, which the *D. glaucus* has not. *Empal.* scales much more taper-pointed than those of *D. glaucus*. *DILL*.—*Root* yellowish, knotted, fibrous. *Stem* reclining, a foot or somewhat higher, cylindrical, with a very fine downiness, forked; joints fivefold. *Leaves* sitting and growing together at the base, awl-shaped, rather pointed, very entire, of a pleasant green, downy, or smooth, 6 to 7 lines long, scarcely 1 line broad. *Fruit-stalks* round, downy, from the ends of the stem and branches. *Empalement* of a greenish yellowish tinge. *Flowers* 10 to 11 lines diameter. *Petals* inversely egg-shaped, blunt, ferrated, with dark purplish teeth near the mouth, and beset with white silvery points with hairs proceeding from them; borders nearly $\frac{1}{2}$ inch long, and 3 lines broad. *POLLICH*.—*Stem* usually upright, square above with sharp angles, below nearly cylindrical, simple, or branched, slightly downy. *Leaves* strap or awl-shaped, not acutely pointed, nearly as long as the joints, pressed to the stem, slightly downy. *Fruit-stalks* frequently 2 from the same knot, each bearing a single flower. *Empal.* scales, the 2d pair, which is often below the 1st, nearly awl-shaped. *Petals* toothed, bright crimson above, sometimes pale underneath. *Mr. Woodward*.—*Stem* cylindrical, ascending, knotty, forked, $\frac{1}{2}$ a foot high. *Leaves* opposite, strap-shaped, keeled, shorter than the joints. *Fruit-stalks* terminating, with a single flower. *Scales* 2, concave. *Petals* toothed, purple. *LYONS*.—*Blossoms* always red.

Maiden Pink.

Sandy meadows, pastures, and heaths. Near Nottingham, on the road to Lenton, in Bedfordshire. Mantham Hill, not far from Slough, near Windsor; Hildersham, Cambridgeshire; Bridgenorth, Shropsh. near G. Strickland, Westmoreland; and about Hampton Court Park. *RAY*.—Dupper's Hill, near Croydon.

Hubs.—

HUDS.—Near White-wood Ghmblingay, Cambridgefhire. RELH. King's Park, Edinburgh. LIGHTF.—[Cley, Norfolk, and Chedder Rocks, Somerfetfhire. Mr. CROWE.—Near Bury, Suffolk. Mr. WOODWARD.—Hills between Bakewell and Chatfworth. Mr. WHATELY.—Sand banks near Wollerton, Nottinghamfhire, on the road from Derby to Nottingham. Mr. SAVILLE.]—P. LINN. Mr. SAVILLE.—B. HUDS. June, July, and fometimes in full flower in Sept. Mr. WOODW. and even in Oct. Mr. SAVILLE.]

Cows, Horfes, Sheep, and Goats eat it. Swine refufe it.

β. HUDS. ST.

Dill. elth. 298. 384. HUDS. ST.

My fpecimens from gardens. WITH. ST.

Dianthus glaucus. LINN. (ST.) which fec.

DIAN'THUS *glau'cus*. Flowers mostly folitary. *mountain*
Four fcales to each empalement, fpear-shaped, fhört. Bloffoms fcolloped, LINN.—Scales of the empalement fometimes 2. DILL. WILLICH.

Dill. elth. 298. 384. LINN. Mr. WOODWARD. ST. WITH.—

(Dill. elth. 298. 385, and Pluk. 81. 3, * according to Mr. Hudfon, but the figure of Dill. is made by Linneus a variety of *D. virgineus*; and that of Pluk. which is referred by Mr. Hudfon, in his 1st edit. to *D. arenarius*, appears, from the fcales of the empalement being represented as long as the empalement, to be *D. alpinus*. Flukenet's figure fhould feem to have been taken from Du Bois's fpecimens.)

Bloffoms white, with a tinge of green, and, on the upper furface, with a tinge of purple from a number of very fine lines, and, about the middle of the petals, furrounded with an elegant purple circle. DILL. ST.—So nearly allied to *D. deltoides*, that they are difficultly diftinguifhed, except in fize and colour. Stem longer, more upright. Bloffoms greenifh underneath, above white, with a toothed fcarlet circle. Tips bluiſh. LINN.—Bloffoms white, with a purple eye. In other refpects differs very little from the *D. deltoides*. LIGHTF. ST.—The ring is double, both toothed, the inner pale, the outer broader and fcarlet. WILLICH.—Stem and leaves covered with a microſcopical woollinefs. Stem rather angular. Fruit-ftalks folitary, or in pairs. Scales of the empalement in 2 oppofite pairs, skinny at the edges, the 2 inner ones the largeſt. Empal. teeth skinny at the edges, pointed. Petals ferrated at the ends, white, but ſtained with pink at the baſe of the limbs. Tips grey. Summits white. woolly. Receptacle nearly as long as the S. veſſel. Accords with the Linnæan character and ſynonyms. WITH. ST.

* Does not this ſynonym belong rather to *D. alpinus*? WITH.

ST.—The *D. deltoides* and *glaucus*, (*Fl. dan.* 577, and *Dill. t.* 394,) seem to be one and the same plant, liable to a variety in the number of the scales of the empalement, and the *Armeria species flore in summo caule singulari*. *R. syn.* 336, which Mr. Hudson has, I think erroneously, referred to the *D. glaucus*, I am inclined to believe, will prove to be the *D. virgineus*, or a distinct species.—*Dill. t.* 298. *f.* 385, referred to by Mr. Hudson, and considered by Linnæus as a variety of *D. virgineus*, corresponds with a specimen from the botanic garden of my friend, Mr. Saville, who received it from Mr. Sole, of Bath, for the true *Chedder Pink*. ST.—*Armeria species flore in summo caule singulari*. *R. syn.* 336, which is described by Ray as “very different from the Maiden Pink, and more truly “answering the name, having but a single flower on the top of “the stalk,” cannot surely be the *D. glaucus*. ST.)

Mountainous situations. North of England. Mr. Du Bois PLUK.—King’s Park, Edinburgh; but Mr. YALDEN was of opinion that the *D. deltoides* was the only species in the neighbourhood of Edinburgh. LIGHTF.—Chedder Rocks, Somersetshire. Mr. BREWER, in *R. syn.*—[But specimens received by Mr. Crowe, from Chedder Rocks, where he was assured no other species grew, proved to be *D. deltoides*; but, I have been assured by others, that they have received what was by no means the *D. deltoides* from Chedder Rocks. Mr. WOODWARD.] P. June. July.

*** Stem herbaceous; supporting a single flower.

singleflowered

DIAN'THUS *arenarius*. Stem with generally 1 flower. Scales of the empalement egg-shaped, blunt. Petals with many clefts. Leaves strap-shaped.—

Clus. i. 282, repr. in *Dod.* 176. 3, *Ger. em.* 594. 12, and cop. in *Park. par.* 315. 5, and *H. ox. v.* 25. 11.

Empalement of a dull lake colour. Blossoms pale purplish red, more or less mottled with white. WITH.

Caryophyllus virgineus. GER. em. 594. WITH.

Common Pink.

On old walls.

P. July. Aug.

The above character and synonyms are inserted on the authority of Mr. Hudson, who prefixes an asterisk, implying, that it is supposed to be a naturalized plant, calling it the *Common Pink*. Now the *Red Pink*, the *D. damascenus*, of Miller, he had already given as a variety of *Caryophyllus*, and the *Pleasant-eyed Pink* is the *D. plumarius*. I must, therefore, own, I do not know what Mr. Hudson means by his *Common Pink*. Mr. Lightfoot has also inserted it on the authority of Sibbald, but he afterwards doubts whether the *D. deltoides* had not been mistaken for it. ST.

Order

Order III.

TRIGYNIA; III. POINTALS.

615. CUCU'BALUS. Campion.

EMPAL. Cup 1 leaf; tubular, (or globular, WITH.) with 5 teeth; permanent.

BLOSS. Petals 5; claws as long as the cup; border flat; limbs generally cloven; not crowned by a honey-cup.

CHIVES. Threads 10; awl-shaped; every other thread fixed to the claws of the petals; 5 of them shedding their dust later. Tips oblong.

POINT. Seed-bud rather oblong. Shafts 3; awl-shaped; longer than the chives. Summits downy; oblong; bending towards the left.

S. VESS. Capsule covered; tapering; with 3 cells; opening at the point in 5 different directions.

SEEDS many; roundish.

ESS. CHAR. Empalement inflated. Petals 5; with claws; not crowned at the mouth. Capsule with 3 cells.

CUCU'BALUS *bacciferus*. Empalements bell-berry bearing shaped. Petals distant. Seed-vessels coloured. Branches straddling.

Silene baccifera, which see.

CUCU'BALUS *Be'hen*. Empalements nearly glo-Bladder bular, smooth, with a net-work of veins. Capsules with 3 cells. Blossoms almost naked.—

J. B. iii. 356.—Pet. 57. 2.—Blackw. 268.—Clus. i. 293. 2, repr. in Dod. 172, Lob. obs. 184. 1, Ger. em. 678. 2, and cop. in Park. 263, and Ger. 550. 2.—Trag. 130, cop. in Lonic. ii. 33.—H. ox. v. 20. 1.

Empalement sometimes without veins, when it appears white. GMEL.—Stem panicled. Leaves soft, opposite, egg-spear-shaped. Flowers nodding. Empalement egg-shaped, inflated, longer than the claws of the petals. Chives somewhat longer than the petals. Seed-bud supported by a column with 10 corners. Seed prickly. RELH.—Capsule opening in 6 directions. LEERS. ST.—Each of the valves generally splitting into 2 teeth, though sometimes 5 and 7.

Empalement

Empalement before the expansion of the blossom oblong, pointed at the end; when the blossom is expanded globular-egg-shaped, whitish, with brownish purple veins; when the blossom is shrivelled globular-bell-shaped. *Petals*, no appearance of honey-cup teeth. *Tips* yellowish. *Dust* greenish dirty yellow. *ST.*—*Stem* forked at the top. *Leaves* heart-spear-shaped, not properly united, beset on each side with numerous minute pimples, opposite; *flower-leaves* at the forks of the stem frequently tinged with purple. *Flowers* at the ends of the branches, crowded, some on long fruit-stalks. *Tips* green. *Empal.* veins green. *MR. WOODW.*—*Plant* free from hairs. *Stem* branched, joints large. *Leaves* spear-shaped, fitting. *Flowers* terminating. *Empalement* egg-shaped. *Petals*, claws broadest at the top. *Summits* not downy. *WITH.*—*Leaves* sea-green, smooth, oval-spear-shaped. *Flowers*, some solitary at the divisions of the stem, others crowded at the ends of the branches. *Empalement* bellying, inflated, with green or purple veins. *Petals* distant; *claws* with projecting edges, forming a kind of ears, analogous to those of the *Silene*, thus forming the link of connection between *Silene* and the rest of the *Cucubalus*. *HALL. ST.*—*Leaves* sometimes fringed with prickly-like hairs, as in *Silene amœna*, and sometimes with a few short hairs scattered over the surface. *Young shoots* sometimes hairy. *Empal.* veins purplish, or green. *Chives*, 5 of them fixed to a glandular honey-cup at the bottom of the flower, and shedding their dust sooner than the other 5, which are fixed to the petals. *ST.*

Spatling Poppy. White Bottle. Bladder Campion.

Corn field, and dry meadows and pastures.

P. [June. *WITH.* and] July. August.

The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the island of Minorea, in the year 1685, when a swarm of locusts had destroyed the harvest. The Gothlanders apply the leaves to erysipelatous eruptions.

Horses, Cows, Sheep, and Goats eat it. *LINN.*—A Horse refused it. *ST.*

2. Leaves rough. *Huds.*

Spanish CUCU'BALUS *Orites.* Chives and pointals on different plants. *Petals* strap-shaped, undivided. *LINN.*—*Sometimes with chives and pointals. ST.*

Fl. dan. 513.* *a.* the flowers of the fertile plant, *b.* those of the barren plant.—*Clus.* i. 295. 1, repr. in *Ger. em.* 593. 1. *a.* fertile plant, *b.* barren

* Root-leaves 4 times as broad as they are in a wild state. Probably from a garden specimen. *MR. WOODWARD.*

b. barren plant, cop. in *J. B.* iii. 350. 2, and *Pet.* 57. 11, in which *a.* and *b.* are reversed, and the fertile plant cop. in *Ger.* 396. 1, and *H. ox.* v. 20. 5, leaves in all too large.

Root long, spindle-shaped. Stems several. Root-leaves wedge-shaped, tapering downwards into leaf-stalks, forming a thick tuft. Stem-leaves opposite. Empalement marked with green lines. Petals strap-shaped, narrow, quite entire, somewhat bowed in at the point; of a yellowish whitish green. *POLLICH.* *MR. WOODW.*—Leaf-stalks long, channelled. Stem sometimes single, the lower part with a few leaves, above naked and clammy. Flower-leaves somewhat membranaceous, growing together at the base, 2 under each set of fruit-stalks. Capsules oblong-elliptical. The barren plants bear more flowers, and in closer panicles than the fertile ones. I have examined many hundred plants, but never met with one with chives and pointals in the same empalement. *MR. WOODWARD.*—Flowers on fruit-stalks in whorls on the stem and branches, in the specimens examined with chives and pointals. *POLLICH. ST.*—In other specimens, as described by *Linnæus.* Seed-bud oblong, scored, crowned by a glandular substance, similar to the receptacle of the *Umbelliferae*. Shafts 2. *ST.*—Bloss. pale green, or white. Root-leaves lying in a circle on the ground.

Gravelly pastures. Gravel pits on the north side of Newmarket, and between Barton Mills and Thetford, Norfolk. [Near Swaffham and Narborough, Norfolk. *MR. WOODWARD.*

P. July. August.*

CUCU'BALUS *acaulis.* Sp. pl. ed. i. HUDS. ed. ii. *mos*
Silene acaulis, which see.*

* *Cucubalus viscosus.* It is time this plant was excluded from our Flora. There can be little doubt but Ray's plant was the *Silene nutans*, which has been found on Dover cliffs; and, I am informed, has been received from thence by Mr. Lightfoot, under the name of *C. viscosus*; and, from Ray's account of it, it appears, that the Dover plant was not much unlike the Nottingham one, differing in nothing material but the degree of clamminess, whereas the plant figured in *Tourn. voy.* 361, is extremely unlike that description, and has not the most distant resemblance to *S. nutans*; and, in the *Syst. veg.* the synonym of Ray is directed to be erased. *MR. WOODWARD.*—Retzius, however, in his obs. iii. 52, says, he cultivates the *Lychn. maj. notifl. Dubronis peren. R. syn.* in his garden, and finds it to be only a slight variation of *Cucubalus italicus.* *ST.*

616. SILE'NE. Catchfly.

EMPAL. *Cup* 1 leaf; tubular; with 5 teeth; permanent.

BLOSS. *Petals* 5; *claws* narrow; as long as the cup; bordered; *limb* flat; blunt; frequently cloven. *Honey-cup* composed of 2 little teeth at the neck of each petal, and constituting a crown at the mouth of the tube.

CHIVES. *Threads* 10; awl-shaped; every other thread fixed to the claws of the petals; and shedding their dust later. *Tips* oblong.

POINT. *Seed-bud* cylindrical. *Shafts* 3; simple; longer than the chives. *Summits* bending to the left.

S. VESS. *Capsule* cylindrical; covered; with 3 cells, opening at the point in 5 different directions.

SEEDS many; kidney-shaped.

ESS. CHAR. *Empalement* bellying. *Petals* 5; *with claws*; *with a crown at the mouth*. *Capsule* with 3 cells.

* *Flowers* solitary; lateral.

English SILE'NE *anglica*. Hairy. Petals nicked at the end. Flowers upright. Fruit on reflected, alternate fruit-stalks. LINN.—Petals generally quite entire. Flowers upright, nearly spiked. Fruit-stalks of the fruit between straddling and bent back. HUDS.—*Lower Capsules* only bent back. MR. WOODWARD. ST.

Curt. iv. 45.—Dill. elth. 309. 398.—(Vaill. 16. 12, is *S. gallica*.)

Petals not scolloped. *Lower-leaves* inversely egg-spear-shaped, fringed towards the base. *Empalement* not hairy, but the angles hedge-hogged with reflected prickles hardly perceptible. LINN.—*Petals* blunt, sometimes nicked. *Fruit* when ripe bent downwards horizontally, not pendant, angular, clammy, hairy. HUDS.—*Leaves* spear-shaped. *Flowers* from the bosom of the leaves, hairy, clammy. *Petals* entire, or nicked. CURT. ST.—*Stem* branched. *Empalement* as hairy as the rest of the plant. *Upper Capsules* upright, and nearly fitting. MR. WOODWARD. ST.—*Empalement* thick set with short hairs, terminated by globular glands, and the 10 ribs with long expanding hairs. Mr. Curtis's figure accords with this, but by no means does the Linnæan description. *Petals*, 2 strap-shaped teeth at the base of the limbs. ST.

Small Corn Champion, with a very small white flower. RAY.

Sandy

Sandy corn fields. Near the Devil's Ditch, Cambridgeshire. In Effex. About Coombe Wood, Surry; and near Newport in the Isle of Wight. A. June. July.

SILE'NE *quinquevul'nera*. Petals very entire, round- *variegated* ish. Fruit upright, alternate.—

(*Clusf. i. 290. 1, repr. in Lob. obs. 183. 1, ic. i. 339. 1, Ger. em. 470. 5, and cop. in Park. 639. 6, H. ox. v. 21. 35, and Ger. 383. 5, expresses the general habit, but the petals are represented as having 3 teeth, an error which the accurate Clusius would hardly overlook.*)

Empalement of the fruit upright, hairy, clammy. Petals blunt, scarcely nicked, very entire at the edge, purple, with a white margin. LINN

Sandy corn fields about Wrotham, Kent.

A. July.

It is cultivated in our flower borders. ST.

** Flowers lateral; crowded.

SILE'NE *nu'tans*. Petals cloven. Flowers lateral, *Nottingham* pointing one way, bowed downwards. Panicle nodding.—

Fl. dan. 242, segments of the petals represented as spear-shaped, pointed, instead of strap-shaped.—Clusf. i. 291. 1, repr. in Ger. em. 470. 8, and cop. in Park. 631. 5.*

Stem simple, cylindrical, a foot high, with 3 joints below the panicle of flowers, beset with clammy hairs. Leaves spear-shaped, with short hairs. Root-leaves on short leaf-stalks, forming a close turf. Petals white, narrow, cloven more than half way down; segments scolloped at the end, rolled inwards in the day time. Claws of the blofs. twice as long as the cup. Chives white, twice as long as the claws of the petals. Shafts 3, white, as long as the chives. LINN. —Stem frequently branched from the root. MR. WOODWARD.

Mountainous meadows. Walls of Nottingham Castle. [Rocks in Dovedale, Derbyshire. MR. WOODWARD.—Near Gloddaeth, Caernarvonshire. PENN. Wales.] P. June. July.

Sheep, Horses, Goats, and Swine eat it. Cows refuse it.

SILE'NE *amœ'na*.† Petals cloven. Crown slightly *sea* joined together. Flowers pointing one way. Fruit-stalks opposite, with 3 flowers. Branches alternate.—

Fl. dan.

* Leaves too large. Flowers not sufficiently nodding. Flowering branches too short. MR. WOODWARD.

† It does not accord with Linnæus's description of *S. amœna*. MR. WOODW. WITH. ST.—The empalement is neither hairy, nor has it 10 angles. WITH. Vol. I. G g ST.

Fl. dan. 857.*—*Lob. adv.* 143, repr. in *Ger. em.* 469. 2, and cop. in *Ger.* 382. 2, *Park.* 639. 3 and 4, *J. B.* iii. 357. 1, *Pet.* 57. 1, and *H. ox v.* 20. 2.

Stems spreading, rather smooth and ascending. Branches straddling, short. Leaves smooth upon the upper surface. The angles of the empalement 10, purple and woolly. Petals white, cloven $\frac{1}{2}$ way down. LINN.—Stems smooth, trailing, 6 to 12 inches high. Flowering branches ascending. Leaves spear-shaped, growing together at the base, smooth, 1 or 2 inches long, $\frac{3}{4}$ broad. Flowers on short fruit-stalks, from 1 to 3 at the end of each of the flowering branches, much resembling those of *Cucubalus Behen*. Empal. veins generally purple. Petals deeply cloven, segments oval, beneath which are 2 prominent teeth. Tips deep purple. Differs from *Cucubalus Behen* in the presence of the crown at the mouth of the blossom, and in the leaves not being heart-shaped at the base. MR. WOODWARD.—Leaves spear-shaped, fringed. Flowers altogether similar to those of *Cucubalus Behen*, except that the veins of the empalement are less distinct, and that the claws of the petals are extended into ear-like teeth. HALL. ST.—Stem weak and slender. Leaves of the barren branches, and the lower ones of the stem generally strap-spear-shaped, fringed with prickles-like hairs; those of the upper part of the stem egg or egg-spear-shaped, taper-pointed, 3 or 4 times as broad as the rest. Flowers often solitary, and frequently only 1 on a stem, terminating and lateral, the terminating one solitary, generally over-topping the lateral flowering branches; the rest at the end of 2 lateral flowering branches, with 2 leaves at their base. It retains its habit and characters when cultivated. In one plant, shafts and cells 5. This species evinces how little essential difference there exists between *Cucubalus*, *Silene*, and *Lychnis*. ST.—Leaves opposite, spear-shaped, edges transparent, serrated with very minute prickles. Flowers on long fruit-stalks from the bosom of the leaves, or terminating. Empal. semi-transparent, with a net-work of veins. Petals, edge very entire, white, each with 2 small plaits at the summit of the claw. Seed-bud oblong, mulberry-coloured, with a green glandular substance at the top. Shafts sometimes 5. Seeds fixed on short pedicles to the receptacle. Receptacle loose. WITH.

ST.—Neither can it with propriety be arranged under the division of "Flowers lateral, crowded," and, if the *S. amœna*, as, from the synonyms it ought to be, it is surely remarkable that the circumstance of "empalements smooth, with net-work veins," which is applied to *S. Behen*, as well as *C. Behen*, should have been omitted. ST.

* Is this plant beyond a doubt. MR. WOODWARD. ST.

Sandy.

Sandy places on the sea coast. [Southwold, Suffolk. Mr. CROWE.—Wells, Norfolk. Mr. WOODWARD.—Coast of Wales. Mr. SAWYER.—Portreath, near Hayle, Cornwall. Mr. WATT.]
P. June. July.

β. HUDS. Leaves broader. RAND.

*** Flowers growing from the forks of the stem.

SILE'NE *conoi'dea*. Empalements of the fruit globular taper-pointed, with 30 scores. Leaves smooth. Petals entire. LINN. HUDS. ST. corn

Clus. i. 288. 2, repr. in Lob. obs. 183. 2, ic. i. 339. 2, and Ger. em. 470. 7, and cop. in J. B. iii. 349. 4, Park. 631. 4, and H. ox. v. 21. 33. LINN. ST.*—(Lob. ic. i. 338. 2, repr. in Ger. em. 470. 6, and cop. in Park. 633. 11, and abridged in J. B. iii. 350. 1, with the addition of a branch in fruit, is the figure referred to by Dill. in R. syn. under *Lychn. sylv. angustifol.* &c. C. B. referred by Hudson to *S. conoidea*, but by Linnæus to *S. conica*.)

Stem beset with clammy hairs. Leaves spear-shaped, smooth. Empal. ribs rough with hair. Capsules globular, with a cylindrical beak. Petals small, undivided, entire. Honey-cups with 3 clefts, pointed, and with a tooth besides on each side at the base of the blossom. LINN.—Leaves, edges and mid-rib underneath downy, and sometimes also the whole of the leaf. Stem downy below, clammy above, being beset with hairs terminated by globular heads. Empalements rounded at the base, clammy, beset with short close hairs, interspersed with longer ones. In the *S. conica* the empalement is lopped at the base, and the whole plant is beset with a short thick down, without any longer hairs intermixed, and not clammy. ST.

Sandy corn fields. A little to the north of Sandown Castle, plentifully. Mr. J. SHERARD and Mr. RAND. R. syn. ed. iii.

A. June. July.

* These are the figures which Linnæus refers to his *S. conoidea*, and with these, as well as with the description of *S. conoidea*, my specimens from the London Botanic Garden accord. Mr. Hudson, indeed, gives to the *S. conoidea*, the synonyms which Linnæus has referred to the *S. conica*, but he mentions no place of growth, except on the authority of R. syn. It is possible that the *S. conica* and *conoidea* may be both native species. In Dr. Withering's herbarium I have found a specimen of *S. conica*, which he believes to have been of native growth, and which exactly corresponds with the figure of it in Jacq. austr. iii. 253. ST.

night flowering SILE'NE *noctiflora*. Empalements with 10 angles; the teeth as long as the tubes. Stem forked. Petals cloven.—

Cam. hort. 34, cop. in H. ox. v. 20. 12.—(J. B. iii. 344. 1, is a different plant.)

Stem upright, hairy, clammy. Leaves broad-spear-shaped, hairy. Flowers solitary, on fruit-stalks, slanting, whitish. Empalement cylindrical; those of the fruit globular-egg-shaped, full of seed, scored, with a net-work of veins; teeth nearly as long as the empalement. Flower opening in the night, sweet-scented in the summer, but not so in the autumn. LINN.—Whole plant hairy. Leaves growing together at the base, oval-spear-shaped. Flowers few, in the bosom of the upper-leaves, and terminating, mostly nodding. Seed-vessel upright. Mr. WOODWARD.

Corn fields. Between New-market and Canva's-hall in Wood-ditton. About Norwich. [Sandy fields, Norfolk, frequent. Mr. WOODWARD.] A. July.

Pheasants are fond of the seeds.

common. SILE'NE *Armeria*. Flowers in broad-topped bundles. Upper-leaves heart-shaped, smooth. Petals entire.—

Fl. dan. 559.—Clus. i. 288. 1, repr. in Dod. 176. 4, and Lob. obs. 242. 3, and cop. in H. ox. v. 21. 26.—Ger. 481. 2.

Whole plant smooth. Stem upright, upper joints of the stem clammy. Leaves oblong, the upper heart-shaped. Flowers terminating, the ends of the branches sub-dividing into forks, the forks close together. Petals nicked at the end; teeth of the crown taper-pointed, open. LINN.—Stem forked. Leaves sea-green, opposite. Floral-leaves very small, 2 at each division of the bundle of flowers. Empalement with 10 scores; teeth very small, and skinny. Petals pale red, slightly notched at the end; teeth of the crown long. Chives, every other shorter and shedding its dust later. Tips pale purplish blue. Shafts white. WITH.—Empalement somewhat bellying upwards. Blo's. claws whitish green, border and teeth purplish rose-colour; teeth half as long as the border. Petals, Chives, and Pointal fixed to the summit of a green columnar receptacle, half as long as the empalement. ST.

Corn fields, and old walls. Banks of the River half a mile below Chester. A. July. Aug.

berry bearing SILE'NE *baccifera*. Empalements bell-shaped, deeply cloven. Stem branching. Flowers solitary, at

at the forks of the branches. Petals cloven, distant.
ST.*

Mill. 112.—*Clus.* ii. 183. 2, repr. in *Dod.* 403, *Lob. obs.* 136. 3,
Ger. em. 614. 13, and cop. in *Park.* 759. 1, and *J. B.* ii. 175.
1.—*Tourn.* 176, *fructification*, petals ill done.

Petals crowned, and therefore a *Silene*. REICH. *Branches* horizontal, and sometimes slanting downwards. *Fruit-stalks* often as if broken back. *Petals* ferrated, with little ears at the base of the border, so that it cannot with propriety arrange where Linnæus has placed it. HALL. ST.—*Stems* cylindrical, roughish, of a pleasant green. *Branches* opposite. *Leaves* egg-shaped, taper-pointed, running down into leaf-stalks, roughish. *Fruit-stalks* short. *Empal.* downy. *Petals* expanding, white; *claws* very narrow; teeth at the base of the border, in which respect it seems to depart from the Linnæan character. POLLICH. ST.—*Stem* hairy. *Leaves* hairy, opposite, oval-spear-shaped, very entire, on short leaf-stalks, those below the branches bent down to the stem. *Empalement* belling, frequently tinged with purple. MR. WOODWARD.—*Whole plant* somewhat hairy. *Stem*, joints large; *branches* nearly horizontal. *Leaves* in pairs at the joints. *Flowers* nodding. *Empalement* egg-shaped. *Petals*, when young, not seeming to have honey-cup teeth, but afterwards they become visible, and are ferrated at the ends, so that it is properly a *Silene*. *Capsules* with 3 partitions, but not sufficiently projecting to separate it into distinct cells. WITH.—As *Cucubalus* and *Silene* are genera merely artificial, the rules of arrangement require that it be removed to the latter genus. Tournefort, and after him Gmelin, have, in my opinion, very properly considered it as a distinct genus. Its habit is that of *Cerastium*, but its general structure that of *Silene*. It appears to form the connecting genus. *Empalement* cloven more than half way down. *Petals* cloven; *teeth of the crown* at the base of the border growing to the petal, except at the outer and upper edges, oblong, square, irregularly toothed at the upper edge with 2 or 3 teeth. *Capsules* at first of 3 cells, but the partitions being of a loose texture, they soon shrivel up, and, separating from the sides, give the appearance of there being but 1 cell; not opening at the point as in *Silene*, *Cucubalus*, &c. ST.

Berry-bearing Chickweed.

Hedges in Anglesea.

P. June. July.

* Calycibus campanulatis 5-fidis, caule ramoso, floribus solitariis ex ramorum dichotomia, petalis bifidis distantibus. ST.

* * * * Stemless. ST.

mos SILE'NE *acaulis*. Stemless, pressed down. Petals nicked at the end.—

Lightf. 12. at p. 221.—*Fl. dan.* 21.—*Dill. elth.* 167.* 206.†—

Pona ap. Clus. ii. 341. 2, repr. in *Ger. em.* 593. 8, and cop. in

Barr. 380, and *Park.* 639. 10.—*J. B.* iii. 768.—*Pet.* 56. 4.

Foliage fimilar to a *Bryum*. LINN.—*Capsule* of 1 cell. HALL. ST.—But the vestiges of 3 partitions appear on the inside, as in *S. baccifera*. ST.—It is indubitably a *Silene*. Mr. WOODWARD. Dr. J. E. SMITH. ST.—Forms a thick turf. *Leaves* awl-shaped, smooth, but the edges beset with hooked teeth pointing downwards. *Flowers* single, bright purple. *Fruit-stalks* sometimes not $\frac{1}{2}$ an inch high, but lengthening as the fruit advances to maturity, when from 1 to 2 inches long. *Petals* inversely heart-shaped, with 2 small teeth forming the crown. *Capsule* as long again as the empalement, smooth, shining, tinged with purple. Mr. WOODW.—*Chives* wanting in 2 plants cultivated in the Edinburgh Botanic Garden. *Leaves* fringed with short prickly-like hairs, bowed backwards. *Fruit-stalks* with sometimes 2 opposite leaves growing upon it. *Blossoms* purple, sometimes pure white. ST.

Mountains of Caernarvonshire, near Llanberys; Dartmoor, Devonsh. Isles of Mull, Rum, and Skye, Highland Mountains. [Ben Lomond. LIGHTF. Dr. J. E. SMITH.] P. June. July.

617. STELLA'RIA. Stitchwort.

EMPAL. *Cup* 5 leaves; egg-spear-shaped; concave; upright; expanding; permanent.

BLOSS. *Petals* 5; deeply divided; flat; oblong; shrivelling.

CHIVES. *Threads* 10; thread-shaped; shorter than the blossom; every other shorter. *Tips* roundish.

POINT. *Seed-bud* roundish. *Shafts* 3; hair-like; expanding. *Summits* blunt.

S. VESS. *Capsule* egg-shaped; covered; with 1 cell, and 6 valves.

SEEDS many; roundish; compressed.

ESS. CHAR. *Empalement* of 5 leaves; expanding. *Petals* 5; divided into 2. *Capsule* 1 cell; many seeds.

† Mr. WOODWARD.—It is wanting in our copy. ST.

STELLA'RIA *nem'orum*. Leaves heart-shaped, on broad-leaved leaf-stalks. Panicle with branching fruit-stalks.—

Fl. dan. 271.—*H. ox.* v. 23. 2, *cop. in Park.* 762. 1.

So nearly allied to *Cerastium aquat.* as with difficulty to be distinguished from it. Stem a foot high. Leaves, under surface much paler than in those of *Cerast. aquaticum*, the greater part of them on leaf-stalks, but few sitting, and those smaller only near the panicle. Leaf-stalks hairy, especially on the upper surface. Panicle terminating, distinct, smooth. Fruit-stalks after flowering pendant. *Empal.* smooth. LINN.—Allied to, but most truly distinct from *Cerastium aquaticum*. Stem low, never climbing. SCHREB.—Stem once or twice forked, afterwards branched; smooth below, hairy above. Leaves opposite, below the divisions of the stem, on leaf-stalks, at and above them sitting. Fruit-stalks long, branched, hairy, each with a pair of leaves similar to the stem-leaves. Differs from *Cerastium aquaticum* in having the upper part only hairy, and not clammy; the petals full twice as long as the empalement; the segments of the empalement more pointed, the fruit-stalks very slender, shafts only 3, and seed-vessel upright. Mr. WOODW.—Lower-leaves heart-egg-shaped, the middlemost egg-shaped. Fruit-stalks solitary. Empalement even, not ribbed. In habit it resembles *Alfina media* (*decastemon.*) ST.

Woods, moist hedges, and banks of rivers, in the northern counties. [By Casterton Mill. near Kirkby Lonsdale, Westmorel, Dr. J. E. SMITH.—Near Kendal, shewn me by Mr. GOUCH, son of a manufacturer of that place, a blind botanist, who had lost his sight early in his infancy, but who, by means of touch, had learnt to distinguish plants with wonderful accuracy. The plants he was familiar with he recognized by what may be called an intuitive touch, by simply drawing them through his hand; with others he took more time, examining the particular parts between his fingers. ST.]

STELLA'RIA *Holo'stea*. Leaves spear-shaped, greater finely serrated. Petals cloven. LINN.—Leaves fringed. HALL. ST.—With short prickles, not finely serrated. ST.

Curt. ii. 14.—*Walc.*—*Mill.* ill.—*Fuchs.* 136, *cop. in J. B.* iii. 361. 2.—*Trag.* 329.—*Dod.* 563, *repr. in Lob. obs.* 26. 2, *Ger. em.* 47, and *cop. in Park.* 1325.—*Pet.* 58. 1.—*Ger.* 43. 1.—(*Fl. dan.* 698, has fringed leaves indeed, but the petals are divided nearly to the base, the lobes pointed, and has more of the habit of *S. graminea* than of *S. Holo'stea.*)

Stem a foot high and upwards, upright, forked, knotty, the lower joints shorter, angular, roughish. Leaves opposite, sitting,

keeled, smooth, hairy at the edge. *Flowers* in panicles, white. *Fruit-stalks* thread-like, from the bosom of the leaves, with 1 flower, longer than the leaves. *Empalement* pointed, membranaceous at the edge. *Petals* blunt, longer than the empalement. *Tips* yellow, as long as the summits. *LYONS*.—*Leaves*, hairs at the edge prickly-like, very short, expanding, or bent back. *Empal.* leaves membranaceous at the edge, marked with faint longitudinal veins. *Petals*, segments rounded at the end. *ST.*—*Leaves* in pairs, at the joints of the stem, which are pretty near each other towards the bottom of the stem; the edges rolled inwards, set with fine prickles; mid-rib underneath beset with small prickles; above smooth, and marked with a hollow groove running lengthways along the middle. *WITH.*

Stitchwort.—Hedges and woods.

P. April. May.

lesser STELLARIA *gramin'ea*. Leaves strap-shaped, very entire. Flowers in panicles. *LINN.*—Panicles terminating. *ST.**

Gmel. iv. 61. 2.—*Pet.* 58. 3.—*Ger.* 43. 2.—*J. B.* iii. 361. 3, not in flower.

Stem quadrangular, lying flat, forked. *Leaves* opposite, sitting, keeled. *Empalement* pointed, scored, somewhat longer than the blossom. *Blossoms* white. *Tips* flesh-coloured. *LYONS*.—*Stem* weak, brittle, square. *Petals* larger than the empalement, divided almost to the base. *Flower-scales* at the divisions of the panicle egg-spear-shaped, white. *HALL. ST.*—*Stem* creeping at the base, above upright, or trailing to $1\frac{1}{2}$ foot high, smooth. *Leaves* spear-shaped, tapering to a point. *Petals* almost as long again as the empalement. *POLLICH. ST.*—*Leaves* sometimes with a woolly fringe towards the base. *Panicle* forked, with from 1 or 2, to 8 or 10 sub-divisions, with a one-flowered fruit-stalk at each fork; sometimes nearly as long as the rest of the stem, leafless. *Flower-scales* with a woolly fringe. *Empalement* egg-spear-shaped, tapering to a point, with 3 prominent ribs, membranaceous at the edges, the 3 outermost with a woolly fringe. *Petals* nearly half as long again as the empal. segments strap-shaped, rounded at the ends. *ST.*

Horses, Cows, Goats, Sheep, and Swine eat it.

β . *HUDS.*—*Pet.* 58. 2.—*Fl. dan.* 698?—(*Fl. dan.* 414, referred to by Mr. Hudson, is β of Linnæus, and does not at all accord with Ray's description.)

* *Paniculis terminalibus*. If any other marks of distinction should be wanting, it may be added, *Empalement with 3 ribs*; and, to the *S. Holostea*, *Empalement without ribs*. *ST.*

Stems stronger, and shorter; leaves stiffer, sea-green, and flowers larger than *S. graminea*. It seems to approach nearer to *S. Holostea*, but it is smaller in all its parts. RAY.

Isle of Ely. Near Oxford. Peckham Fields.

A.

STELLA'RIA *uliginosa*. SCHREB.—Leaves spear-shaped, very entire. Stem trailing. LEERS. ST.—Panicles lateral. ST.* bog

Pet. 58. 4.—Ger. 490. 9, cop. in Ger. em. 613. 8, and H. ox. v. 23.

8.—J. B. iii. 365. 2.—(Fl. dan. 415, is γ Linnæus.)

Leaves fringed at the base. Fruit-stalks from about the middle, and from near the end of the stem, in threes, from the bosom of the leaves, thicker towards the end, the 2 lateral ones dividing into 3, and bearing 3 flowers. Flower-scales spear-shaped, 2 at the base of the fruit-stalks in the bosom of the leaf. Petals shorter than the empalement, divided down to the base, the segments distant. Chives, 5 inserted into the claws of the petals, the other 5 into as many glands, surrounding the seed-bud. LEERS. ST.—Stems several, from 2 to 12 inches high, square; angles acute, smooth, weak, and sometimes creeping at the base, above upright, extending beyond the panicles, but little branched; branches upright. Leaves smooth, except at the base, sitting, or tapering down into short leaf-stalks, upright. Panicles pointing one way, sitting, upright, generally 2 on each stem; mostly consisting of 3 primary branches, the outermost bearing a single flower; the other 2, in the more luxuriant plants, dividing into forks, with a fruit-stalk bearing a single flower at each fork; the shorter as long again as the single fruit-stalk; and the 3d nearly as long again as the 2d. Flower-scales 2, at each fork of the panicle. Empalement smooth, membranaceous at the edge, generally closed. Petals white; segments strap-shaped. Shafts sometimes 4 and 5. ST.—Leaves sitting. Empal. leaves spear-shaped, expanding when in flower, but afterwards closing upon the capsule. Panicles from the bosom of the leaves. Summits rolled back. WITH.

S. uliginosa. SCHREB. consp. pl. ap. spicileg.—*S. dilleniana*. LEERS.—*S. graminea* γ LINN. fl. suec. 393, and Huds. fl. ang. 190.—Lightf. β .—*Alfne longifolia uliginosis proveniens locis*. J. B. iii. 365. R. syn. 347.—*Alfne fontana*. Ger. 490, em. 613.—*Alfne aquatica media*. Bauh. pin. 251.—*Alfne*. Hall. n. 882. β .—(In *Alfne Hypericifolia*. Vaill. 9, the petals are described as entire and pointed.—*Alfne*. Hall. n. 881, described as having flowers at the summit of the plant, is the *Stellaria aquatica* of Pollich and *S. dilleniana* of Mænoch, which is a different species.) ST.

* Paniculis lateralibus. ST.

DECANDRIA TRIGYNIA.

Fountain Chickweed.—Sides of springs, rivulets, ditches, and boggy meadows. [Rivulets on the side of Malvern Hills, and on the side of the hill at W. end of Powick's Ham, near Worcester. ST.—Hockley Pool Dam, near Birmingham. WITH.—Moist grounds, near Leeds. Mr. WOOD.] A. June.

618. ARENARIA. Sandwort.

EMPAL. *Cup* 5 leaves. *Leaves* oblong; tapering; expanding; permanent.

BLOSS. *Petals* 5; egg-shaped.

CHIVES. *Threads* 10; awl-shaped; every other more inwards. *Tips* roundish.

POINT. *Seed-bud* egg-shaped. *Shafts* 3; upright; but a little reflected. *Summits* rather thick.

S. VESS. *Capsule* egg-shaped; covered; with 1 cell; opening at the point in 5 different directions.

SEEDS many; kidney-shaped.

ESS. CHAR. *Empalement* 5 leaves; expanding. *Petals* 5; entire. *Capsule* 1 cell; many seeds.

sea ARENARIA *peploides*. Leaves egg-shaped, pointed, fleshy.—

Fl. dan. 624.—*Pet.* 65. 9.—*Ger. em.* 622. 1.—*Park.* 281. 2, *cop.* in *J. B.* iii. 374. 3, *ill done if the plant.*

Glands on the receptacle. LINN.—*Blossoms* white.

Sea shore, frequent. [Yarmouth, &c. Mr. WOODWARD.]

P. June. July.

Horses eat it. Sheep and Cows refuse it.

plantain- ARENARIA *triner'via*. Leaves egg-shaped, leaved pointed, on leaf-stalks, stringy.—

Curt. iv. 46.—*Walc.*—*Fl. dan.* 429.—*J. B.* 364. 1, *cop.* in *Pet.* 59. 1.

Stem forked. *Leaves* running down into leaf-stalks. *Fruit-stalks* bent down. *Capsules* pendent. LINN.—*Stems* downy. *Leaves*, ribs and edges hairy. *Empal.* leaves spear-shaped, hairy and skinny at the edge, twice as long as the petals, contracting as soon as the petals are fallen. RELH.—*Stem* reclining, downy, cylindrical, several growing together in tufts. *Branches* from the upper side. *Leaves* beset with very short fine hairs, and fringed with short fine bristles; the lower nearly heart-shaped, on flat leaf-stalks; the upper spear-egg-shaped, nearly sitting. *Empalement*, leaves spear-shaped, concave,

concave, beset with minute bristles. *Petals* expanding, half as long as the empalement, white. *Chives* as long as the empalement, every other shorter. *Shafts* sometimes 2 and 4. *Summits* bent back, woolly. WITH.

Woods and wet hedges.

A. May.—July.

Sheep are not fond of it.

ARENA'RIA *serpyllifolia*. Leaves somewhat egg-shaped, pointed, sitting. Blossoms shorter than the empalement.— *thyme-leaved*

Curt. iv. 45, in its least branched state.—*Ger.* 488. 3, in its most branched state, preferable, perhaps, in point of habit.—*Dod.* 30. 1, repr. in *Lob. obs.* 246. 2, *Ger. em.* 612. 3, and cop. in *Park.* 1259. 3, and *Pet.* 59. 2, leaves too oblong.—(*Fuchf.* 23, cop. in *J. B.* iii. 348. 1, and *Lonic.* i. 167. 1, with pendant stems more resembles a *Sagina* or *Moehringia*.—*J. B.* iii. 364. 2, is a *Lychnis*.)

Petals half as short again as the empalement. *Capsule* nodding, on a horizontal fruit-stalk as in *Stellaria*, opening at the point with 6 teeth. *A. trinervia*, in these respects, agrees with it. Blossoms white. LEERS.

Least Chickweed.

Roofs, walls, sandy and very dry places.

A. May.—July.

Sheep refuse it.

ARENA'RIA *rubra*. Leaves thread-shaped. Flower-scales membranaceous, sheathing.— *purple*

α. campestris. LINN.

field

J. B. iii. 722. 3.—*Pet.* 59. 8.

Flowers expand between 9 and 10, and close between 2 and 3. LINN.—Empalement hairy, clammy. RELH.—*Chives* 5. *Tips* double. *Pointals* 3 and 5. HALL. and FABRIC.—*Leaf-scales* usually spear-shaped. MR. WOODWARD.—*Stems* smooth. *Leaves* flatted, smooth, terminated by a little sharp point. *Empal.* leaves spear-shaped, concave, membranaceous at the edge, and beset with minute hairs with globular heads. *Summits* woolly. *Petals* purple. WITH.

Purple Spurrey.

Sandy meadows and corn fields.

A. June.—Aug.

Goats refuse it. Sheep are not fond of it.

β. HUDS.—Smaller than *A. rubra marina*. *Stem*, knots more distant than in *A. rubra campestris*. *Flowers* somewhat smaller than those of both. *Seeds* smaller than those of *A. rubra marina*, variable in its shape, but in general not bordered. RAY.—The foliage has much the air of a *Mesembryanthemum*. *Stem* nearly upright,
or

or ascending, simple, or forked, 3 to 6 inches high. *Leaves* awl-shaped, convex underneath, about the length of the joints; the lower expanding, bent back, the upper upright, pointing one way. *Leaf-scales* surrounding the stem, of 2 lips; lips egg-shaped, pointed, sometimes cloven at the end. *Fruit-stalks* solitary, from the base of the leaves, and at the forks of the stem, bent down when ripe. *Chives* 4, 5, or 7. *Petals* purple. *Seeds* flat, between half heart-shaped and kidney-shaped, the circular edge downy, with an elevated rounded border, the straight edge plain, dark brown; some encompassed with a membranaceous border, deeper than half the breadth of the seed, white, with radiated scores, toothed at the edge. So remarkable a difference in structure one might have expected to afford a mark of specific distinction, but, though generally the 2 kinds of seeds are found on different plants, yet they are sometimes seen in the same seed-vessel. ST.

Arenaria media. LINN. according to Mr. Hudson, but Linnæus expressly refers to another plant of *R. syn.* which see below.* ST.

Spergula maritima flore parvo cæruleo, semine vario. *R. syn.* 851.

Pastures on the sea coast. HUDS.—With *A. rubra marina* on Shell-coast in the Isle of Sheppey. RAY. A. June. July. [Sept. ST.]
 sea β . *marina*. Stem smooth. Leaves as long as the joints. Leaves and fruit-stalk downy and clammy. LINN.

Fl. dan. 740.—*Pet.* 59. 7.—*H. ox.* v. 23. 15.—(*J. B.* iii. 723. 1, should seem to be *A. media*.)

Flowers expand at 9. *Empalement* covering half the capsule. It may seem a paradox to many, considering the great difference observable in size, duration, place of growth, and figure of the seeds, between the varieties α and β , to regard them as one species, but it is clearly justifiable. LINN.—*Chives* varying in number in this, as also in *A. rubra* α . RELH.—*Bloss.* purple. *Flowers*, as also the whole plant, varying in size. *Seeds* surrounded with a membranaceous border as in *A. media*, but shallower. RUPP. ed. i. 89.—*Leaves* frequently longer than the joints. *Leaf-scales* membranaceous, broader and blunter than in α . MR. WOODWARD.

Arenaria marina. CURT. cat. 201. (ST.)

Salt marshes, and on the sea coast. [Portcath, near Redruth, Cornwall. MR. WATT.—In a salt marsh near Shirley Wich, Staffordshire. ST.]

P. RAY.

It is succulent, and very much resembles Samphire, and considerable quantities of it are actually pickled and sold for that plant. MR. WATT.

mountain ARENARIA ver'na. Leaves awl-shaped. Stems panicled. Empalements taper-pointed, scored.—

Jacq.

Jacq. austr. v. 504.—*Pet.* 59. 4.—*Pluk.* 7. 3.—*Herm. par.* 12, branches straggling, petals too pointed.

Differs from *A. saxatilis* in its stems being scarcely a hand's breadth high, and beset with scattered hairs. Fruit-stalks hairy, and empalements pointed. LINN.

Mountainous situations about Settle, Kendal, Holywell, and Llanberys. Mountains about Settle. CURT.—[Arthur's Seat, Edinburgh. LIGHTF. ST.—Matlock, Derbyshire, and in the northern counties. Mr. WOODWARD.—Road side between Holywell and St. Asaph. Mr. WOOD.] P. May.—Aug.

A sure indication of elevated ground. CURT.

β. HUDS.

(*Ger. prov.* 15. 1. at p. 409, referred to by Hudf. is *A. juniperina*.)

ARENA'RIA tenuifolia. Leaves awl-shaped. Stem *fine-leaved* panicled. Empalements upright. Petals shorter than the empalement, spear-shaped.—

Vaill. 3. 1.—*Fl. dan.* 389.—*J. B.* iii. 364. 3, *cop. in Pet.* 59. 3.

Leaves awl-shaped, connected at the base. *Empal.* leaves finely tapering, or awned, pointed underneath with 2 green lines. *Petals* broad-spear-shaped, half as short again as the empalement. LINN.—*Empalement* generally smooth, oft times a little hairy. LIGHTF.—*Stems* frequently purple, often much branched. Leaves connected, and much bellying at the base, shorter than the joints of the stem; frequently in bundles from the bosom of the larger, which are the rudiments of branches. Mr. WOODWARD.

Sandy meadows and pastures. Corn fields on the borders of Triplow Heath; Gogmagog Hills, Cambridgeshire. Near Deptford; Cornbury Quarry, near Charlbury, Oxfordshire. On a wall in Battersea. [Near Cley, Norfolk. Mr. CROWE.—Near Bury. Mr. WOODWARD.—Malvern Hill, Worcestershire. Mr. BALLARD.] P. June. July.

ARENA'RIA laricifolia. Leaves bristle-shaped. *larch-leaved* Stem rather bare above. Empalements somewhat hairy.—

Jacq. austr. iii. 272.—*J. B.* iii. 360. 2, but the petals, as Haller observes, are represented as nicked.—(*Scop.* 18, a different species, more like *A. austriaca*.)

Empal. oblong, streaked, cylindrical, downy. LINN.—Flowers terminating.

A. laricifolia. LIGHTF.—Cannot be the *A. laricifolia* of Linn. ST. Mountains of Westmoreland. HUDS.—Dry mountainous pastures in a stony soil. Castle Hill, near Forfar Angus. LIGHTF.

P. July. Aug.

619. CHERLE'RIA. Cyphel.

EMPAL. 5. leaves; spear-shaped; concave; equal.

BLOSS. *Petals* none, unless the empalement or honey-cups be considered as such. *Honey-cups* 5; nicked; placed in a circle; very small.

CHIVES. *Threads* 10; awl-shaped; every other fixed to the back of the honey-cups. *Tips* simple.

POINT. *Seed-bud* egg-shaped. *Shafts* 3; serpentine. *Summits* simple.

S. VESS. *Capsule* egg-shaped; cells 3; valves 3.

SEEDS 2 or 3; kidney-shaped.

ESS. CHAR. *Empalement* of 5 leaves. *Honey-cups* 5; cloven; resembling petals. *Tips*, every other barren. *Capsule* of 1 cell; 3 valves; 3 seeds.

moſſy CHERLE'RIA *Sedoides*.—

Jacq. austr. iii. 284.—*Hall. opusc.* i. 3. at p. 300, cop. in *Hall.*

. 21. i. at ii. p. 114.—*Pen. voy* 33.—*Fluk.* 42. 8.—*Park.* 737. 11, cop. in *H. ox.* xii. 6. 14.

Leaves opposite, strap-shaped, rough at the edge, connected at the base into a kind of sheath. When the leaves fall off, the sheath and keel of the leaves remain, cloathing the stem, whence it has an affinity to the Gilliflower tribe. LINN.—In my specimens the bottom of the stems are cloathed with the shrivelled but entire leaves. *Honey-cups* truly such, fleshy, connected with each other. ST.

Highland Mountains, near their summits; and by the sides of rills in Scotland.

P. July. Aug.

Order

Order V.

PENTAGYNIA; V. POINTALS.

628. COTYLE'DON. Navelwort.

EMPAL. *Cup* 1 leaf, with 5 clefts; sharp; small.

BLOSS. 1 *petal*; bell-shaped; with 5 shallow clefts. *Honey-cup* a hollow scale at the base of each seed-bud.

CHIVES. *Threads* 10; awl-shaped; straight; as long as the blossom. *Tips* upright; with 4 furrows.

POINT. *Seed-buds* 5; oblong; rather thick; ending in awl-shaped *Shafts*, longer than the chives. *Summits* simple; reflected.

S. VESS. *Capsules* 5; oblong; distended; tapering; of 1 valve; opening lengthways on the inside.

SEEDS many; small.

ESS. CHAR. *Empalement* with 5 clefts. *Blossom* 1 *petal*. *Honey-cup* scales 5; at the base of the seed-bud. *Caps.* 5.

COTYLE'DON *Umbilicus*. Leaves target-shaped, common scolloped. Stem nearly simple. Flowers pendant. Floral-leaves entire. HUDS.—*Lower-leaves* in some plants kidney-shaped. HUDS.

Clus. ii. 63. 1.—*Blackw.* 263.—*Dod.* 131. 1, repr. in *Lob. obs.*

209. 3, *Ger. em.* 528. 1, and cop. in *Park.* 740. 1, and *Ger.*

423. 1.—*J. B.* iii. 684. 1.—*Matth.* 1122.

Root tuberous. LINN.—*Stem* frequently purple. *Spikè* sometimes simple, sometimes branched towards the bottom. *Floral-leaves* spear-shaped, 1 at the base of each fruit-stalk. *Flowers* in the smaller specimens not always pendant. *Bloss.* segments pointed, scored. Mr. WOODWARD.—*Whole plant* succulent. *Root* tuberous, roundish. *Stem* nearly upright, slightly angular, 6 to 9 inches high. *Leaves* somewhat scolloped. *Flowers* in long terminating bunches, of a white greenish hue. *Empal.* segments spear-egg-shaped. *Bloss.* shrivelling, permanent. SR.—*Whole plant* has a shining, frosted appearance. *Leaves* thick, fleshy, circular, with central leaf-stalks, concave on the upper surface, with a hollow dimple nearly in the centre, just opposite to the insertion of the leaf-stalk underneath. *Leaf-stalks* round. *Flowering stems* tinged with

with red. *Stem-leaves* resembling the root-leaves, but not so exactly circular, and the leaf-stalk not fixed so nearly in the centre. *Empal.* divisions extending more than half way down. *Chives*, every other shorter. *Bloss.* tubular, 5-cornered, sides flat. *Honey-cup scales* and *tips* yellow. **WITH.**

C. umbilicus. β . LINN.

Navelwort. Kidneywort. Wall Pennywort.

Old walls, and moist rocks. West of England, Caernarvonshire, and about Troutbeck, Westmoreland. [Old walls at Peterborough; and Thorpe, between Peterborough and Wandsford. Dr. J. E. SMITH and Mr. WOODWARD.—Walls, Cornwall. Mr. WATT.—Plentifully throughout Caernarvonshire and Merionethshire. Mr. WOOD.—Malvern Hill, Worcestersh. Mr. BALLARD. ST.—In the clefts of rocks above Great Malvern. ST.]

P. June.—Aug.

yellow (*CURT.) COTYLE'DON *lu'tea*. Leaves target-shaped, scolloped. Stem nearly simple. Flowers upright. Floral-leaves toothed. HUDS.

Dodart. 73. at p. 265, *I have not seen.*

Roots knotty, creeping. MORISON.

C. Umbilicus. α . LINN.

Walls and moist rocks, in the West Riding of Yorkshire. Mr. TOFIELD.—In the garden of Mr. Clement, who received it out of Somersetshire. HUDS.

P. June.

629. S E ' D U M. Stone-crop.

EMPAL. *Cup* with 5 divisions; sharp; upright; permanent.

BLOSS. *Petals* 5; spear-shaped; taper; flat; expanding. *Honey-cups* 5; each consisting of a small scale; notched at the end; and fixed on the outside the base of each seed-bud.

CHIVES. *Threads* 10; awl-shaped; as long as the blossom. *Tips* roundish.

POINT. *Seed-buds* 5; oblong; ending in slender *Shafts*. *Summits* blunt.

S. VESS. *Capsules* 5; expanding; taper; compressed; notched at the base; opening inwards along the seam.

SEEDS many; very small.

ESS. CHAR. *Empal.* with 5 clefts. *Bloss.* 5 petals. *Honey-cup scales* 5; at the base of the seed-bud. *Capsules* 5.

* Leaves

* *Leaves flat.*

SE'DUM *Telephium*. Leaves nearly flat, ferrated. *Orpine*
Flowers in leafy broad-topped spikes. Stem upright.—

α. *Ludw.* 200.—*Fuchsf.* 800, *cop. in J. B.* iii. 681.—*Matth.* 636. white
—*Clusf.* ii. 66. 2, *repr. in Dod.* 130. 2, *Lob. obs.* 211, *Ger.*
em. 519. 2, and *cop. in Park.* 726. 2, and improved in *H. ox.*
xii. 10. row 1. 1.—*Ger.* 416. 2.—*Blackw.* 191. 2.

More rare with us than β. CURT. ST.

β. *Curt.* iii. 35.—*Fl. dan.* 686.—*Fuchsf.* 801.—*Clusf.* ii. 66. 1, purple
cop. in Ger. 417. 1, and *H. ox.* xii. 10. row 1. 2.—*Blackw.*
191.—*Lonic.* ii. 24. 2.—*Trag.* 373.—(*Ger. em.* 519. 1, is *S.*
T. maximum.)

Leaves oval, rather toothed than ferrated. *Empalement* not half
so long as the blossom. *Petals* hooked at the point, reddish purple.
Honey-cup glands yellow, strap-shaped, crooked, not notched
at the end. *Threads* reddish purple. *Tips* brownish red. *Dust*
yellow. *Seed-buds* tapering at each end, streaked with reddish
purple. *Seeds* long, tapering at each end. WITH.

Walls, pastures, and hedges. [Sandy fields, Suffolk, frequent.
Does not seem to grow on roofs or walls, unless planted. Mr.
WOODWARD.—Near Ashburne. Mr. WHATELY.—Pasture near
Mr. Pearson's house, Tettenhall, Staffordshire. WITH.—Fields
about Robinson's-end, Malvern Chace. Mr. BALLARD.] P. Aug.

Cows, Goats, Sheep, and Swine eat it. Horses refuse it.
LINN.—A decoction of the leaves in milk is a forcible diuretic.
It has been given with success to cure the piles. WITH.

** *Leaves round.*

SE'DUM *dasyphyllum*. Leaves opposite, egg-shaped, thick-leaved,
blunt, fleshy. Stem weak. Flowers scattered.—

Curt. iii. 25.—*H. ox.* xii. 7. 35.*—*J. B.* iii. 691.†

Stems numerous, weak, trailing. *Leaves* broader than they are
long, nearly flat above, convex underneath, sea-green with a tinge
of purple. *Flowers* few, terminating, solitary. *Fruit-stalks* branched.
Mr. WOODWARD.

Walls and roofs. Market-eit near Market-street; Hammermith
and Kew. [Bugden, Huntingdonshire. HUDS. Mr. WOODW.
—Near London. Mr. WOODWARD.] P. CURT. ST. July.

* Too large. Leaves pointed, and on leaf-stalks. Mr. WOODWARD. ST.

† Too large also. ST.

yellow SE'DUM *reflexum*. Leaves awl-shaped, scattered, unconnected to the stem at the base; the lower ones bowed back.—

Fl. dan. 113, accurate as far as it goes:—*Clus.* ii. 60. 2, repr. in *Dod.* 129. 1, *Ger. em.* 512. 1, and cop. in *H. ox.* xii. 6. 6, and *Pet.* 42. 5, when first come into flower.—*Clus.* ii. 60. 1, repr. in *Ger. em.* 513. 6, and cop. in *H. ox.* xii. 6. 7, and *Pet.* 42. 6, going out of flower.—*Fuch.* 33, cop. in *J. B.* iii. 692. 3.—*Ger.* 412. 1.

Leaves thrice as narrow as those of *S. rupestre*, more finely awl-shaped, green, not sea-green, expanding, crowded, in 8 rows, expanding, not tiled, the lowermost bowed back as a hook. LINN.—*Stem-leaves* sea-green, crowded so as to cover the stems, at length falling off and leaving the stem bare. Stem nearly upright, branched at the top; branches often bowed back. Bloss. yellow. HALL. ST.—Stems from a hand's breadth to a foot high, sea-green tinged with red. Leaves of a mixture of sea-green and red. Flowers full yellow, in a tuft, like forked panicle; the lateral branches not unfrequently slightly bowed back. Chives 12. POLLICH. ST.—Leaves of the branches sea-green, the upper bowed inwards; those of the stem tinged with red, distant. Empalement with 6 and sometimes 7 clefts. Petals 6 or 7, bluntish, concave. Honey-cup scales blunt. ST.—Leaves in some plants red, in others green. Empalement with 6 divisions. Petals, honey-cups, and pointals 6. Chives 10. WITH.—Leaves sea-green. LIGHTF.

Prick-madam.—Walls, roofs, and rocks, frequent. [Malvern Hill. Mr. BALLARD.] P. July.

rock SE'DUM *rupestre*. Leaves awl-shaped, in 5 rows, crowded, unconnected to the stem at the base. Flowers in tufts.—

Dill. elth. 256. 333.—*Pet.* 42. 8.—(*Fl. dan.* 59, is a different plant, as is evident from the flowers growing intermixed with leaves.)

Leaves sea-green, more thickly awl-shaped, tiled in 5 lines. LINN.—Which may be best observed by viewing it with the ends of the branches opposed to the eye; acrid to the taste. Blossoms bright yellow. WITH.—Stems before flowering closely tiled. Leaves scattered. Flowers in a close, thick, branched tuft. Bloss. yellow. Mr. WOODWARD.

St. Vincent's Rocks, near Bristol. Rocks of Hyfvaë over the valley of Nantphrancon. P. Aug.

Both this and the preceding are cultivated in Holland and Germany to mix with lettuces in fallads.

SE'DUM *album*. Leaves oblong, blunt, nearly *whiteflowered* round, sitting, expanding. Tuft branching.—

Curt. i. 11.—*Fl. dan.* 66.—*Blackw.* 428.—*Ger.* 413. 2.—*Clus.*

ii. 59. 1, repr. in *Dod.* 129. 2, *Lob. obs.* 205. 2, *Ger. em.*

512. 2, and cop. in *Park.* 734. 1, and *H. ox.* xii. 7. 23.—*Fuch.*

35, repr. in *Trag.* 378, and *J. B.* iii. 690. —*Walc.*—*Lonic.*

i. 60. 1.—(*Matth.* 1118, is *S. min. teretif. alt. C. B.*)

The whole plant sometimes purple, except the flowers, which are white. *Linn.*—*Stem-leaves* (when drying) grooved on the upper side. *Empal. segments* blunt, dotted with purple. *Honey-cups* yellow. *Tips* chefnut-coloured. *Dust* yellow. *Seed-buds* white. *Summits* pointed. *With. St.*

Sedum minus teretifol. alb. *R. syn.* p. 271.—*Tragus Herba, Gallinariæ baccæ.* *Trag.* i. p. 60. *A. (St.)*

Walls and roofs. [Walls at Peterborough. Mr. WOODWARD. —Rocks above Great Malvern. NASH.] P. June. July.

Goats eat it. Sheep refuse it.

SE'DUM *a'cre.* Leaves nearly egg-shaped, growing *Pepper* to and sitting, bellying, nearly upright, alternate. Tuft with 3 divisions.—

Curt. i. 4.—*Sheldr.* 42.—*Fuch.* 36, cop. in *J. B.* iii. 694. 2.—

Trag. 379.—*Blackw.* 232.—*Ger.* 415.—*Clus.* ii. 61. 1, repr.

in *Ger. em.* 517. 2, cop. in *Park.* 735. 7, *H. ox.* xii. 6. row 3.

12, and improved in *Pet.* 42. 9.—*Dod.* 129. 3, repr. in *Lob.*

obs. 205. 4, cop. in *Park.* 735. 8.—*Matth.* 1119.—*Lonic.*

i. 59. 2.

Flowers terminating. *Blossoms* yellow.

Stone Crop. *Wall Pepper.*

Walls, roofs, rocks, and dry pastures. P. June. July.

This plant continues to grow when hung up by the root, which is a proof that it receives its nourishment principally from the air, as is the case with most of the succulent plants. It is very acrid. Applied externally it blisters. Taken inwardly it excites vomiting. In scorbutic cases, and quartan ages, it is an excellent medicine under proper management.

Goats eat it. Cows, Horses, Sheep, and Swine refuse it.

β. HUDS. *Sedum sexangulare*, which see.

SE'DUM *sexangula'rè.* Leaves somewhat egg-shaped, *insipid* growing to and sitting, bellying, nearly upright, tiled in 6 rows.—

Curt. iv. 37.

H h 2

Root

Root not forming a turf. Agrees with the *S. acre* in appearance, flowers, and situation, but differs in its leaves being before blooming evidently tiled in 6 rows, and, instead of having a biting, acrid taste, being insipid. Branches never so copious as to form a turf. Flowers in each branch of the tuft seldom more than 3. LINN.—*Clives* 8 to 12. MENCH.—Stems several, with short expanding branches. Leaves pale green, insipid. Tuft with 3 branches, terminating. Flowers on fruit-stalks, one at the division of the tuft, with a leaf at the base of each. *Empal.* leaves growing to and sitting, yellowish at the base, much smaller than the blofs. Petals egg-spear-shaped, concave, yellow. Flowers later than the *S. acre*. One 5th of the parts of fructification sometimes wanting. RETZ.—Leaves of the flowering stem nearer to each other than those of the *S. acre*, longer, more numerous, in general much redder, and nearly of the same thickness throughout, in the young shoots disposed in 6 rows, which are sometimes straight and sometimes slanting. CURT.

Walls, roofs, and dry pastures. Near Northfleet and Sheerness, the Isle of Shepey, and south side of Greenwich Park Wall, near the west corner. P. June.

Goats eat it.

English S E'DUM *anglicum*. Leaves somewhat egg-shaped, growing to and sitting, bellying, alternate. Tuft with 2 branches. HUDS.

Fl. dan. 82.—*Ray* 12. 2. at p. 326.—*Pet.* 42. 10.

Root branching. Stem trailing, cylindrical, leafy, smooth, branching, reddish; branches alternate. Leaves tiled generally in 3 rows, somewhat pointed, flattish above, bellying underneath, pulpy, naked. Tuft, branches somewhat bowed back. Flowers sitting, pointing one way. Blofs. white, or purplish white. Caps. purplish. HUDS.—Whole plant frequently of a purplish cast. Stems prostrate, with numerous ascending branches. Branches numerous, ascending, before flowering club-shaped, being covered by the leaves closely tiled. Leaves fleshy, blunt. Flowers terminating, on short fruit-stalks, crowded. *Empalement* divided almost to the base; segments not so pointed as the petals. Petals as long again as the empalement, pointed, pale flesh-coloured, with red lines. Tips purple. Capsules very pointed. MR. WOODWARD.

S. rubens. LIGHTF. description good.

Rocks, stones, and drift sand. Suffolk coast between Yarmouth and Donewich. RAY. MR. WOODWARD.—Rocks on the side of Winandermere. Roofs and walls in Wales, especially in the mountainous parts, Sea-shore near Brakelsham. Northern counties.

HUDS.

HUDS. MR. WOODWARD.—Devonshire and Cornwall. Deal in Kent. [Some rocks in Longsledale. CURT.—Whole Suff. coast. MR. WOODWARD.] P. July. Aug.

SE'DUM *villosum*. Stem upright. Leaves flattish. *marsh*
Leaves and fruit-stalks somewhat hairy.—

Fl. dan. 24.—*Clus.* ii. 59. 3, repr. in *Ger. em.* 516. 1, and cop. in *Park.* 734. 6, *H. ex.* xii. 8. 48, and *Pct.* 42. 7.

Fruit-stalks lateral, with 1 or 2 flowers. *Flowers* purple. HALL.—*Stem* smooth below, hairy and clammy above. *Leaves* fleshy, oblong, nearly flat above, hairy, the lower ones smooth. *Fruit-stalks* hairy, clammy, solitary. *Empalement* hairy, not merely so, as Haller says, on the keel. MR. WOODWARD.

Moist mountainous meadows and pastures. Moist rocks about Ingleborough Hill, Yorksh. and Hartside Hill, near Gambleby, Cumberl. RAY. MR. WOODW.—Hinkleham, near Settle. Scotl. [Carr End Wensleydale, Yorkshire. CURT.—Close by Weathercock Caye, at the foot of Ingleborough. MR. WOODWARD.]

A. June. July.

634. OX'ALIS. Cuckow-bread.

EMPAL. *Cup* with 5 divisions; sharp; very short; permanent.

BLOSS. with 5 divisions, connected by the claws; upright; blunt; nicked.

CHIVES. *Threads* 10; hair-like; upright; the 5 outermost the shortest. *Tips* roundish; furrowed.

POINT. *Seed-bud* with 5 angles. *Shafts* 5; thread-shaped; as long as the chives. *Summits* blunt.

S. VESS. *Capsule* with 5 corners, and 5 cells; opening lengthways at the corners.

SEEDS nearly round; bursting out of the seed-vessel.

ESS. CHAR. *Empalement* of 5 leaves. *Petals* connected by their claws. *Capsule* opening at the corners; 5-cornered.

Obs. In some species the capsule is short, and the seeds solitary; in others it is long, and the seeds many.

OX'ALIS *Acetosella*. Stalks with 1 flower. Leaves *Sorrel*
3-fold. Leaflets inversely-heart-shaped. Root toothed.
LINN.—Leaflets hairy. THUMB.

Curt. ii. 19.—*Sheldr.* 26.—*Mill.* ill.—*Walc.*—*Blackw.* 308.—

Fuchf. 567, cop. in *J. B.* ii. 387. 2, and ill cop. in *H. ex.* ii.

DECANDRIA PENTAGYNIA.

17. row 4. 1.—*Trag.* 521.—*Mill.* 195. 2.—*Dod.* 578. 2, repr. in *Lob. obs.* 499. 1. *Ger. em.* 1201, and cop. in *Park.* 746. 1. —*Pet.* 63. 7.—*Lonic.* i. 219. 1.—*Matth.* 837, cop. in *Ger.* 1030. 1.

Leaves frequently purple underneath; *leaflets* close against rain. *Flowers* large. *Petals* white, beautifully veined with purple. *Mr. Woodward.*—*Leaflets* at first green, afterwards purple. *Fruit-stalks* with a small purple floral-leaf. *Petals* connected by small fleshy excrescences, the claws being inserted into the receptacle separate and distinct. *With.*—In rainy weather the leaves stand upright, but, in dry weather, they hang-down. *Blossoms* white, but sometimes pale purple.

Wood Sorrel. *Cuckow-bread.* *Sour Trefoil.* [*Cuckow-meal.* *Cuckow Sorrel.* *Stubwort.* *St.*]

Woods, shady hedges, and heaths.

P. April.

The juice is gratefully acid. The London College directs a conserve to be made of the leaves, beaten with thrice their weight of fine sugar. The expressed juice depurated, properly evaporated, and set in a cool place, affords a crystalline acid salt in considerable quantity, which may be used wherever vegetable acids are wanted. It is employed to take iron moulds out of linen, and is sold under the name of *Essential Salt of Lemons.* *With.*—An infusion of the leaves is an agreeable liquor in ardent fevers, and boiled with milk they make an agreeable whey. *Lewis.*

Sheep, Goats, and Swine eat it. Cows are not fond of it. Horses refuse it.

β. *Huds.* Blossoms purple. *Ray. St.*

Lane between North Owram and Hallifax. *Ray.*

yellowflower'd *Ox'ALIS corniculata.* Fruit-stalks bearing rundles. Stem branching, spreading. *Linn.*—Stem reclining, herbaceous. *Thumb.*

Fl. dan. 873.—*Clus.* ii. 249. 1; repr. in *Dod.* 579. 1. *Lob. obs.* 495. 2, *Ger. em.* 1202, and cop. in *Park.* 746. 2, and *J. B.* ii. 388.—*H. ex.* ii. 17. row 4. 2.—*Ger.* 1030. 2.

Threads connected as in the class *Monadelphia.* *St.*—Rundle of 3 or 4 flowers. *Clus.* *Pollich.*—2 to 5. *Hall.*—generally 2. *Boehm.* *Mr. Martyn.*—*Seeds* brown, transversely scored, inclosed in a transparent seed-coat, which, being pressed, opens with a jerk, and throws out the seed to some distance. *Mr. Hollefer.*—*Leaves* growing by threes, on leaf-stalks. *Capsules* long and pointed. *Blossoms* yellow.

Oxalis corniculata. *Linn.* hort. cliff. 175. hort. upf. 116.—*Oxys caule ramoso diffuso, petiolis alaribus paucifloris umbellatis.* *Hall.* helv.

n. 929.

n. 929.—*Oxys corniculata*. Scop. carn. ed. 2. n. 562.—*Oxys flavo flore*. CLUS. ib. 249.—*Oxys lutea*. BAUH. hist. GER. and GER. em. ib.—*Oxys luteo flore*. PARK. ib.—*Trifolium acetos. corniculat.* BAUH. pin. 330.—*Trifolium luteum minus repens etiam procumbens*. H. ox. II. p. 183.—*Oxys lutea corniculata repens*. LOB. ib.—*Oxys sive Trifolium acetosum, flore luteo*. DOD. ib. (ST.)

First found in Great Britain by Mr. J. Turner, in several places in the neighbourhood of Exeter. BERKENH. *Outlines* ii. p. 127. Mr. MARTYN.—[In a waste rubbishy spot at Dawlish, Devonsh. Sept. 1781, and since in several other places in the same county. Mr. MARTYN.]

A. but if housed during the winter P. RETZ. i. 52. May.—Oct.

635. AGROSTEM'MA. Cockle.

EMPAL. Cup 1 leaf; leather-like; tubular; with 5 teeth; permanent.

BLOSS. Petals 5; claws as long as the tube of the cup; limbs expanding; blunt.

CHIVES. Threads 10; awl-shaped; every other thread shedding its dust later, and fixed to the claws of the petals. Tips simple.

POINT. Seed-bud egg-shaped. Shafts 5; thread-shaped; upright; as long as the chives. Summits simple.

S. VESS. Capsule oblong-egg-shaped; covered; with 1 cell, and 5 valves.

SEEDS many; kidney-shaped; dotted. Receptacles equal in number to the seeds; loose; the inner ones gradually longer.

ESS. CHAR. Empalement of 1 leaf; leather-like. Petals 5; with claws; border blunt; undivided. Capsule of 1 cell.

OBS. Blossom not crowned in *A. Githago* as it is in the other species. LINN.—Hence appears how artificial is the distinction between *Silene* and *Cucubalus*. ST.

AGROSTEM'MA *Githago*. Hairy. Empale- cornments as long as the blossom. Petals entire, without a crown. LINN.—Empalements longer than the bloss. ST.*

* Calycibus corolla longioribus. ST.

Curt. iii. 35.—*Fl. dan.* 576.—*Dod.* 173, repr. in *Lob. obs.* 23. 2, *Ger. em.* 1087, and cop. in *Park.* 632. 9. *H. ox. v.* 21. 31, and *Pet.* 57. 12.—*Fuchf.* 127, cop. in *J. B.* iii. 341. 2, and *Trag.* 127.—*Matth.* 798.—*Ger.* 926.—*Walc.*—*Lonic.* i. 83. 3.

Stem upright, 2 feet high, branching above. *Leaves* nearly growing together, strap-spear-shaped. *Fruit-stalks* with 1 flower. *Petals* blunt, shining underneath. *Empalement* with 10 angles; segments pointed. *Seed-bud* sitting, pear-shaped. *Capfule* with 10 scores. *Seeds* angular, black. *RELH.*—*Petals* generally nicked. *Mr. HOLLEFEAR. ST.*—*Stem* forked. *Leaves* opposite, strap-spear-shaped. *Empalement* with 10 ribs, egg-shaped below, divided at the top into 5 long strap-shaped segments. *Petals*, the limb towards the base with 3 or 5 black dotted lines; *claws* with a plait near the bottom, appearing to contain a honey-like juice. *Honey-cup* formed by the membrane under the seed-bud. *Threads*, 5 shorter, and sometimes separating with the petals, but in general they all remain with the receptacle. *Tips* arrow-shaped. *Shafts* hairy. *Seeds* inversely egg-shaped, compressed, each on a pedicle springing from a common receptacle. I once found on the top of the receptacle of the seeds another seed-bud, with 5 hairy shafts, containing a number of embryo seeds, with the appearance of the rudiment of a 3d seed-bud within it; but in many others which I examined the 2dary seed-buds were not to be found. *WITH. Receptacle of the seeds* egg-shaped, fleshy, $\frac{1}{2}$ as long as the capfule, beset with pedicels supporting the seeds, and terminated by 5, sometimes 6, tough, white, awl-shaped filaments, which, on carefully opening the seed-bud, appear to be connected with the shafts, of which they appear to be extensions, corresponding to the umbilical chord of animals or of the stone fruits, and which, I doubt not, convey the spermatic matter to the embryo seeds. The seeds advancing to maturity rise above their base, and the filaments detach themselves from the point of the seed-vessel. *Empalement* mostly 1-3d as long again as the blossom. *Bloss.* purple, sometimes white. *ST. Cockle.*

Corn fields, frequent.

A. June. July.

Horses, Goats, and Sheep eat it.

636. L Y C H ' N I S. Cuckow-flower.

EMPAL. *Cup* 1 leaf; tubular; membranaceous; with 5 teeth; permanent.

BLOSS. *Petals* 5; *claws* as long as the cup; flat; bordered; *limbs* flat; frequently cloven.

CHIVES. *Threads* 10; longer than the cup; alternately ripening later, and fixed to the claws of the petals. *Tips* fixed side-ways.

POINT. *Seed-bud* nearly egg-shaped. *Shafts* 5; awl-shaped; longer than the chives. *Summits* downy; bent towards the left.

S. VESS. *Capsule* nearly egg-shaped; covered; valves 5; cells 3.

SEEDS many; roundish.

ESS. CHAR. *Empalement* of 1 leaf; oblong; smooth. *Petals* 5; with claws; border generally cloven. *Capsule* with 5 cells.

L Y C H ' N I S *Flos cu'culi*. Petals with 4 clefts. Fruit roundish. LINN.—Clefts frequently only 3. Meff. HAWKES and JONES.

Curt. 1. 2.—Walc.—Fl. dan. 590.—Trag. 403, cop. in *Lonic.* i.

171. 1.—Ger. 480. 1 and 2.—Clus. i. 292. 2, repr. in *Dod.*

177, Ger. em. 600. 1, and cop. in *H. ox.* v. 20. 8, and *Pet.* 56. 6.

Stems trailing, but upright when in flower. LINN.—*Capsule* of 1 cell. LEERS. CURT. WITH.—*Leaves* strap-spear-shaped, nearly upright. *Empalement* with 10 ribs and 10 furrows, coloured; teeth spear-shaped. *Petals*, 2 middle segments the longest; claws with 2 small spear-shaped teeth at the top. *Threads*, those fixed to the petals shorter, the other 5 fixed to a glandular receptacle. *Shafts* of the length of the shorter chives. *Blossoms* purplish red. WITH.

Armoraria pratensis mas. GER. em. 600.

Meadow Pinks. Wild Williams. Cuckow-flower. Ragged Robin. Crow-flower.

Moist meadows and pastures.

P. June.

Horses, Sheep, and Goats eat it.

Aphis Cucubali feeds upon it. LINN.

β. Mill. 169. 2.—Clus. i. 293. 1, repr. in *Ger. em.* 600. 3, and double cop. in *Park. par.* 255. 5.

Pleasant in Sight.

Meadow near Bungay, Suffolk. Mr. WOODWARD.

3. Blossoms white. RAY. ST.

white

[Wood

[Wood near Souston's Roch, near Clifton upon Teme, Worcester-shire. ST.]

Catchfly L Y C H ' N I S *Viscaria*. Petals nearly entire.—

Clus. i. 289. 2, repr. in *Ger. em.* 601. 3, and cop. in *Park.* 637. H.

ox. v. 20. 6, and *Pet.* 57. 3.—*J. B.* iii. 348. 2.

Stems, the upper part of the superior joints anointed with a reddish black clammy substance like tar, in which Ants, and other wingless insects are inviscated, in attempting to creep up to the flowers. *Capsules* with 5 cells. LINN.—*Stem* upright, simple. *Blossoms* red.

Red German Catchfly.

Mountainous pastures. Sides of Craig Wreidhin Hill, Montgomeryshire. Rocks in Edinburgh Park. DR. PARSONS. ST.—[Near Croydon, Surrey. MR. CROWE.] P. May. June.

Curculio Viscaria is found upon it.

Campion L Y C H ' N I S *dioica*. Flowers with chives on one plant, and flowers with pointals on a different plant. LINN.—But sometimes with chives and pointals within the same empalement. LINN. HUDS.

red *α.* Blossoms red.

Curt. ii. 14.—*Walc.*—*Clus.* i. 294. 1, repr. in *Dod.* 171. 1, *Lob.*

obs. 181. 2, *Ger. em.* 469. 1, and cop. in *Park.* 631. 1 and 2,

H. ox. v. 21. 23, and *Pet.* 57. 6.

Corresponds in structure very exactly with *β.* WITH.—*Stems* weaker. *Leaves* softer and more flaccid than in *β.* RAY.—The male of this kind is that in which there are *apices* projecting from the middle of the flower; the female where these are wanting. And this takes place in both colours, for there is a white and a purple male, and the like of the female. GESNER in C. B. pin.—Gesner's observation is just. His male, however, is the fertile, and his female the barren plant. ST.—There are plants with fertile and barren flowers, both of a red and white colour, whence there is reason to believe them to be two distinct species. DR. BURGESS in *Lightf.* p. 1103.—The constancy in the colour of the two varieties, together with some other circumstances, have led me to suspect them to be distinct species. CURT.—There is little doubt but that they are distinct species. They never grow intermixed, nor have I ever found them near each other. MR. WOODW.

Red Flowered Wild Campion.

Hedges, ditches, and moist woods. The rocks in the Isle of Ailfa are covered with it, where there is none of the white. LIGHTF.

P. [May.—Sept. ST.]

β. Blossoms

β. Blossoms white.

white

Walc. fertile plant.—Matth. 997, cop. in J. B. iii. 342, and Pet.

57. 5.—Fl. dan. 792, fertile and barren plants, no hairiness.—

H. ox. v. 21. 21.—(Till. hort. 41. 1, has the air of a distinct species, though it is possibly the fertile plant.)

Capful of 1 cell. LINN. LEERS. CURT.—Flowers frequently with chives and pointals within the same empalement. WITH. ST.—But early in the summer and in the autumn they are generally on distinct plants. Stems nearly cylindrical, hollow, coloured, beset with fine hairs. Leaves spear-shaped, sitting, opposite, soft to the touch like velvet. BARREN PLANT; Empalement hairy, tinged on one side with red. Petals, border divided down to the claws; claws fringed at the top with 4 little scales which nearly close the mouth of the blossom. Threads fixed to the receptacle, unequal, hairy. Tips terminating, those on the longer threads discharging their dust first. Pointals, the rudiments of generally 1 or 2 in the centre of the receptacle. FERTILE PLANT; Empalement more distended, with 5 prominent ribs, and 5 intermediate smaller ones, ribs coloured. Petals, border cloven but half way down to the claws. Receptacle of the seeds large. WITH.

Lychnis alba. CURT. cat. n. 321.

Wild White Campion.

Pastures, hedges, [and fallow fields sometimes so plentifully as to make them appear at a distance quite white, where the red is never found. ST.]

P. June.—Aug. [May.—Sept. ST.]

3. Blossoms flesh-coloured. Flowers with chives and pointals flesh-coloured within the same empalement. HUDS. Mr. WOODW. but sometimes on distinct plants. Mr. WOODWARD.

Aphis Lychnidis lives upon it. LINN.

A Horse eat it. ST.

637. CERAS'TIUM. Moufe-ear.

EMPAL. *Cup* 5 leaves; egg and spear-shaped; sharp; expanding; permanent.

BLOSS. *Petals* 5; cloven; blunt; upright; but expanding; as long as the cup.

CHIVES. *Threads* 10; thread-shaped; shorter than the blossom; alternately longer and shorter. *Tips* roundish.

POINT. *Seed-bud* egg-shaped. *Shafts* 5; hair-like; upright; as long as the chives. *Summits* blunt.

S. VESS. *Capsule* egg-cylindrical; or globular; blunt; with 1 cell; opening at the top; with 5 teeth.

SEEDS many; roundish.

ESS. CHAR. *Empalement* of 5 leaves. *Petals* cloven. *Capsule* of 1 cell; opening at the point.

* *Capsules* oblong.

narrowleaved CERAS'TIUM *vulgatum*. Leaves egg-shaped. Petals as long as the empal. Stems spreading. LINN.—Panicle forked. HUDS.—*Petals* generally longer, sometimes shorter than the empalement. ST.

Curt. ii. 22.—Vaill. 30. 1.—Pet. 58. 6.—J. B. iii. 359. 1.—
(Vaill. 30. 3, and Pet. 58. 5, is *C. viscosum*.)

Very much resembling *C. viscosum*, but stems more numerous, more reclining, forming a thicker turf before they flower, flowering later, continuing longer. Leaves less spear-shaped, and more egg-shaped.* Fruit-stalks not clammy. Capsules smaller. Empal. outer leaves not membranaceous at the edge. LINN.—Whole plant rough with hair. Flowers never much expanded. Capsule opening with 10 teeth. WITH.—Hairs not terminated by globular glands; sometimes but thinly scattered over the plant. Stems from 1 inch to 2 feet high. Leaves varying very much in breadth, the lower ones oblong-egg-shaped. Bloss. varying in size, smaller when the plant is luxuriant, and the reverse. CURT.—Blossoms white.

Meadows, pastures, walls, sides of roads, and amongst rubbish.

P. VAILL. CURT. May.—Aug.

* The reverse of this is generally observable with us. CURT. ST.

CERAS'TIUM *viscosum*. Upright, woolly, and clammy. LINN.—Panicle forked. Flowers longer than the fruit-stalks. HUDS.

Curt. ii. 14.—Vaill. 30. 3.—Pet. 58. 5.

Chives sometimes 5. HALL.—Stems in a barren situation simple, and 2 inches high. Flowers while the plant is young closely crowded together. Petals narrow. Foliage paler than that of *C. vulg.* and *semidec.* Chives 10. CURT. ST.—Stem cylindrical, woolly. Leaves egg-shaped, blunt, woolly, sitting, opposite. Flowers on very short fruit-stalks, forming a sort of rundle in the bosom of the upper pair of leaves. Empalement with fine shining hairs on the outside and at the edges. Petals shorter than the empalement. Summits woolly. Capsule opening with 10 teeth. WITH.—Plant woolly; hairs thick set, whitish, tapering to a fine point, in the upper part of the stem intermixed with others terminated by oval, transparent glands, scarcely thicker than the hairs. Leaves oblong-inversely egg-shaped. Blossoms white. ST.

Meadows, pastures, walls, dry banks, and ant-hills.

A. Apr. May. [to Oct. WITH.]

Horses and Goats eat it. Cows and Sheep refuse it.

CERAS'TIUM *semidecan'drum*. Chives 5. Petals least notched at the end.—

Curt. ii. 21.—Ray 15. 1. at p. 348, as growing on heaths.—Vaill. 30. 2.

Stems very short. Leaves egg-shaped, opposite, somewhat channelled, blunt, sprinkled with very short hairs. Fruit-stalks very short, each with 1 flower. Empalement with glutinous hairs, membranaceous at the point and edges. Petals strap-shaped, white, sharply notched at the end. Chives 5, with white tips, the 5 inner ones without tips. Five honey-cup dots between the fruitful chives and the petals. Seed-bud egg-shaped. Shafts 5. LINN.—Chives 5 to 10. Shafts 3 and 5. GERARD prov.—Chives 5. Shafts 3. HALL.—All the 10 chives with tips. SCOP.—Shafts 5. SCOP. and POLLICH. Stem in very dry situations simple, and about 2 inches high, but more commonly branched, or numerous ascending stems 6 inches high, and clammy with glandular hairs. Empal. leaves terminated by a pointed membrane, clammy with glandular hairs. Petals shorter than the empalement, often gnawed. Chives generally 5, now and then 6, seldom more. CURT.—Empalement tinged at the end with purple. MR. BALLARD.

Walls, pastures, and heaths.

A. Apr. May.

CERAS'-

corn CERAS'TIUM *arven'se*. Leaves strap-spear-shaped, blunt, smooth. Blossoms larger than the empalement. LINN.—*Leaves always a little hairy*. HALL. Mr. WOODW. ST.—*Hardly to be called blunt*. ST.

Vaill. 30. 4, and also 5, which is not *C. repens*, as is evident from the capsule, d.—Ger. 477. 11.—Fl. dan. 626.—J. B. iii. 360.

1.—Ger. em. 595. 15, cop. in Park. 1339. 7.

Leaves pointed, covered with a short thick down. VAILL.—*Petals twice as long as the empalement*. HALL.

Caryophyllus holosteus arvensis. GER. em. 595. (WITH.)

Corn fields, gravelly meadows and pastures, at the foot of walls, dry banks and heaths, in Cambridgeshire. Dupper's Hill, near Croydon. [About Bury, frequent, amongst corn. Mr. WOODW. —Near Norwich. Mr. CROWE.] P. May.

alpine CERAS'TIUM *alpi'num*. Leaves egg-spear-shaped. Stem divided. Capsules oblong. LINN.—*bowed*. HALL.*

Fl. dan. 6.—Ray 15. 2. at p. 348.

Leaves sometimes smooth, and sometimes somewhat hairy. LINN. *fuec*.—We have here 2 varieties; one with the leaves quite smooth and almost glossy; the other with woolly leaves; but they are clearly one species. What can be the cause of the smoothness of the one, growing, as they do, intermixed? *Flowers generally 1, and sometimes 2, but in the Dutch gardens several on a stem*. LINN. *fl. lapp*.—*Some plants green, and others hoary*. Doubted whether not 2 distinct species. *Leaves on the stems more numerous than in C. latifolium*. RAY.

Mountains and sides of rills, as on Snowdon, on the north side of Wyddfa, and Clogwyn du yn yr Ardue near Llanberys.

P. June. July. [Beginning of Aug. RAY.]

Cows and Sheep eat it.

mountain (*CURT. ST.) CERAS'TIUM *latifolium*. Leaves egg-shaped, somewhat downy. Branches, each with 1 flower. Capsules globular. LINN.—*Leaves downy*. Capsules roundish, but when ripe lengthened out into a straight horn. HALL. Mr. WOODWARD.

Lightf. 10. at p. 242. †—[Marten Spitzb. G. d. not examined.]

Stems

* If this mark of difference should prove uniform, Lightf. 10. at p. 242, will prove to be *C. alpinum*. ST.

† This figure accords in habit with Fl. dan. 6, which is referred by Linn. to *C. alpinum*, as does Mr. Lightfoot's description of it with that given by Linn. in

Stems trailing, branched, straddling at right angles. *Flowers* large. *Empalement* bell-shaped. G. in LINN.—*Stems* with 2 flowers. *Leaves*, all downy, the lowermost egg-shaped, crowded, the upper egg-spear-shaped, thickish, pulpy. *Flowers* upright, generally only 1, sometimes 2. HALL.—*Whole plant*, except the petals and capsules, covered with long, soft, shining hairs. *Lower-leaves* oval; *upper* oval-spear-shaped, opposite. *Branches* terminated by 1 or 2 flowers. *Flowers* large, on separate fruit-stalks, each furnished with 2 opposite spear-shaped branches. *Capsule*, horn blunt. Mr. WOODWARD.

On a rock near Glogwyn y Garnedd, the highest in all Wales, near Llanberys, Caernarvonshire; and rocks on the summits of the Highland Mountains. LIGHTF. P. May. June.

* * *Capsules* roundish.

CERAS'TIUM *umbellatum*. Leaves egg-shaped. *umbelliferous* Flowers in rundles. Petals nearly entire. Fruit pendant. HUDS. ST.

J. B. iii. 361. 1.—Rose 2. 4.—Ger. cm. 595. 16, cop. in Park. 1338. 6.—H. ox. v. 22. 46, (not 49.)

Description in English. ROSE p. 446.

Petals with 3, and sometimes only 2 teeth. *Chives* 5, but sometimes only 4 or 3. *Shafts* 3, and sometimes 4. HALL.—*Chives* always 3, except once when I found 5. LEERS.—*Flower-scales* very small, egg-shaped, at the base of the fruit-stalks. *Petals* inversely egg-shaped, with 3 teeth at the end, white. POLLICH. ST.—*Chives* 3, 4, and 5, with 3 shafts, and also 10 with 5 shafts. HUDS. *Whole plant* smooth. *Stem* above bare of leaves. *Fruit-stalks* terminating, mostly hanging down, of various lengths, each with 1 flower. Mr. WOODW.—*Petals* with 5 white ribs; teeth unequal, sometimes 5. *Holostium* differs from *Cerastium* only in number. There are *Cerastiums* with 5 chives; in the *C. pentandrum* the petals are

in the *fl. lapp.* of *C. alpinum*. Switzerland is the only place of growth assigned by Linnæus to his *C. latifolium*. The botanists of that country, however, C. Bauh. and Haller, describe the capsule as *oblong*, which induces me to believe that Linnæus was misled respecting the form of the seed-vessel, from examining dried specimens in which the fruit was not advanced to maturity; and that the variety of *C. alpinum* with woolly leaves of the *fl. lapp.* and the *C. latifolium* are one and the same plant. Neither Mr. Lightfoot nor Mr. Hudson appear to have seen both species. My specimens accord with the *C. alpinum* with woolly leaves of the *fl. lapp.* hairs long, soft, and wool-like; stems ascending, bearing one flower; or forked with 1 fruit-stalk from the fork without floral-leaves, the 2 lateral branches bearing each 1 flower with 2 opposite floral-leaves; capsules oblong, with a scarcely perceptible degree of curvature. ST.

are entire, in the *repens* cloven into 4 and 5; and, on the other hand, in the *Holosteum cordatum* they are divided, as in the generality of the *Cerastiums*, into 2. Sr. (W. 85.)

Holosteum umbellatum, which see.

Old walls, banks, and sandy corn fields about Norwich, where it was first discovered and examined by Mr. J. Pitchford. ROSE. Mr. Woodw.—Found about Bury, in Suffolk, by Mr. Cullum. A. April. May.

marsh CERAS'TIUM *aquat'icum*. Leaves heart-shaped, sitting. Flowers solitary. Fruit pendant.—

Curt. i. 3, but the engraver has forgotten to give the stem its due hairiness.—Dod. 29. 1, repr. in Ger. em. 611. 1, and cop. in Park. 759. 2.—Ger. 488. 1.—(Ger. 613. 10, cop. in Park. 1259. 1, is also referred to by Ray, and is possibly the same plant before any of its seed-vessels become pendant.—J. B. iii. 362, is *Polygala vulgaris*.)

Allied to *Stellaria nemorum*. Stems 1 or 2 feet high, weak, cylindrical, scarce perceptibly 2-edged, jointed; joints reddish at the base. Branches rather few, solitary, alternate, simple, often as long as the stem, hairy above. Leaves heart-egg-shaped, oblong, fitting, embracing the stem, waved at the edge, pointed, smooth, keeled, keel sharpish; the uppermost somewhat hairy, and the 1st leaves of the branches smaller, heart-shaped, on fringed leaf-stalks. Flowers from the bosom of the upper leaves and forks of the stem, on fruit-stalks, solitary, with fruit-stalks and empalements hairy, clammy. Petals divided into 2, white, twice as large as the empalement. Clives 10, white. Pointals 5, white. The empalement and fruit-stalk of the fruit nodding downwards; Capsule egg-shaped, with 5 blunt corners, scarcely longer than the empalement, of 5 valves, hollow above, of 1 cell. Seeds roundish, yellowish red. LINN.—Shafts often 6. POLLICH.—Leaves often heart-spear-shaped, and sometimes curled at the edge. Whole plant set thick with fine short hairs, terminated by globular heads, containing a clammy liquor. Stem not always red at the joints. Branches forked. Empal. segments spear-shaped. Petals rather longer than the empalement. WITH.—It has the greatest natural affinity to *Alfine media*. CURT. Sr.—But is distinguishable by the lower stem-leaves of the *Alfine media* having leaf-stalks, and one of the edges of the stem being set with hairs, while in the *C. aquaticum* the hairiness is general. Sr.

Watery places, and banks of rivers.

P. July.

CERAS'-

CERAS'TIUM *tomento'sum*. Leaves oblong, downy. *woolly*
Fruit-stalks branched. Capsules globular.—

Whole plant white with a thick down. Stems in a thickly matted tuft, forked, with sometimes a single flower on a long fruit-stalk from the division; the divisions branched, but expanding, each branch bearing a sort of rundle. Leaves gradually narrower downwards, the pair below the forks of the stem about $3\frac{1}{2}$ lines broad, and 10 long, much broader than the stem, or the whole empalement; the pair next below $\frac{1}{2}$ a line narrower, and the 3d pair 1 line shorter, and $\frac{1}{2}$ a line narrower than the 2d. Fruit-stalks single, of various lengths. Flower-leaves spear-shaped, with membranaceous edges, in pairs at each division of the stem. Empal. leaves spear-shaped, with membranaceous edges. Petals as long again as the empalement, cloven not $\frac{1}{2}$ way down; segments blunt. Chives 10, as long as the empalement, downy. Tips yellow. Capsules globular. Shafts 5, downy, as long as the chives. Mr. WOODWARD.

Specimens gathered in the garden of Mr. WHITELOCK, who assured me that it was the individual plant he had transplanted from Ripton Wood, Huntingdonsh. where he found it growing wild. Mr. WOODWARD.

636. SPER'GULA. Spurrey.

EMPAL. Cup 5 leaves; egg-shaped; blunt; concave; expanding; permanent.

BLOSS. Petals 5; egg-shaped; concave; expanding; entire; larger than the cup.

CHIVES. Threads 10; awl-shaped; shorter than the bloss. Tips roundish.

POINT. Seed-bud egg-shaped. Shafts 5; upright, or reflected; thread-shaped. Summits rather thick.

S. VESS. Capsule egg-shaped; covered; with 1 cell, and 5 valves.

SEEDS many; globular, but depressed; encompassed by a border, with a notch in it.

ESS. CHAR. Empal. leaves 5; entire. Capsule egg-shaped; of 1 cell, and 5 valves.

SPER'GULA *arven'sis*. Leaves in whorls. Chives *corn*
10. LINN.—Fruit pendant. HUDS.—Chives 5, 7, 8, 10.
SCOP. ST.—often 6 and 7. POLLICH.

Curt. v. 52.—*Dod.* 537, repr. in *Lob. obs.* 467. 1, *Ger. em.* 1125, and cop. in *Park.* 562.—*J. B.* iii. 722. 1, cop. in *Pet.* 59. 6.

Leaves 6 in a whorl, 3 on each side, round, thread-like, woolly, clammy. *Fruit-stalks* branching. *LINN.*—*Leaves* somewhat flattened, convex above, with a single furrow underneath. *Seeds*, border sharp, exceedingly shallow, very entire, but with a nick at its insertion on the receptacle; in some plants beset on each side with exceedingly short brown hairs, or rather cylindrical prominencies, in others with scarcely prominent dots. *Chives* equally variable in the plants with rougher or smoother seeds. *ST.*—*Root* simple, descending. *Stems* upright, cylindrical, knotty. *Leaves* strap-shaped, fleshy. *Flowers* in panicles. *Flower-scales* opposite, very minute. *Fruit-stalks* bent back after flowering. *Blossoms* white. *LYONS.*—*Chives* in the autumn frequently fewer than 10. *Seeds* rough with rising dots, when ripe black, with a white border. *WITH.*—If the stems are forcibly extended, the cortical part separates at the base of each joint, while the inner part, which is very elastic, stretches and continues entire, or, on increasing the extension, breaks generally a considerable way above the joint. *MR. WOODWARD.* *WITH.*

Corn fields, and sandy places. A. July. Aug. [Sept. ST.]

Poultry are fond of the seeds; and the inhabitants of Finland and Norway make bread of them when their crops of corn fail. Experience shews it to be very nutritious to the cattle that eat it.

Horses, Sheep, Goats, and Swine eat it. Cows refuse it.

β. *pentandra*. *HUDS.* *MR. WOODWARD.*—Flowers with 5 and 10 chives found on the same plant. *HUDS.*

Spergula pentandra, which see.

5-chived SPER'GULA *pentan'dra*. Leaves in whorls. Chives 5. *LINN.* *CURT.* cat. n. 753.

Very much like *S. arvensis*, but smoother. *LINN.*

Spergula annua semine foliaceo nigro, circulo membranaceo albo cincto. *R. syn.* 351, is referred to by Hudson, but, from his not having given us any place of growth, it should seem to have retained its place in the Fl. angl. from Linnæus's direction, in *Munt.* II. 90, to erase the synonyms of *S. pentandra*, having escaped Mr. Hudson's notice. It is referred by Linn. to *Arenaria media*, which may possibly prove a British species. I have a specimen from Germany which accords with the descriptions of Morison and Ray, and which I believe to be the *S. pentandra* of Mænoch and Scopoli. In habit it resembles *S. arvensis*, not *Arenaria rubra maritima*, and has 5 shafts; but the fruit is upright, and the seeds similar to those of *A. rubra maritima*, are flat, inversely egg-shaped, and surrounded with a membra-

membranaceous border, deeper than the diameter of the seed, with a nick at the place of infertion to the receptacle. Add to this, that *no* furrow was observable on the under surface. These circumstances sufficiently mark it out as distinct from the *S. arvensis*. The botanists of Ireland may enable us to ascertain this point. ST.

S P E R' G U L A *nodo'sa*: Leaves opposite, awl-shaped, knotted smooth. Stems simple.—

Curt. iv. 44, in its most luxuriant state.—*Fl. dan.* 96, in its more contracted state.—*J. B.* iii. 724.—*Ger.* 567. 6, cop. in Park.

427. 3.—*Pluk.* 7. 4.—*Pet.* 59. 5, lateral branches too numerous in the 2 last.

Bunches of very minute leaves in the bosom of the opposite leaves which are the rudiments of small branches. RAY. ST.—*Foliage* very much resembling that of *Sagina procumbens*. Stems not unfrequently branched; branches lateral, short. Flowers terminating, generally solitary. *Empalement* of 1 leaf, with 5 divisions; segments oblong, membranaceous at the edge, every other shorter. *Petals* white, as long again as the empalement, inversely egg-shaped, streaked. *Tips* oblong, whitish. *Seeds* kidney-shaped, minute, black, with a net-work on the surface, not bordered. *Capsule* egg-shaped. The structure of its seeds shew it not to be of the same natural genus with *S. arvensis*. It is most closely allied to *Arenaria loricifolia*. ST.

Marshy places, wet pastures, and sides of rivers, lakes, and marshes. [Bogs about Settle, and in the North. CURT.—Boggy ground in Sutton Park, Warwickshire. ST.]

P. July. Aug. [Sept. ST.]

S P E R' G U L A *saginoïdes*. Leaves opposite, strap-shaped, smooth. Fruit-stalks solitary, very long. Stem creeping. LINN. RETZ. CURT. MR. WOODWARD. ST.—Chives 5. HUDS.—5 to 10, but mostly 5. CURT.

Curt. iv. 40.—*Fl. dan.* 858.

Stem trailing, 2 inches high. *Leaves* in bundles (also) at the joints. *Fruit-stalks* quite simple, lateral, without flower-scales. *Flowers* nodding. LINN.—*Root* branched. *Stems* several, branched. *Leaves* connected, awl-shaped, fringed, pointed. *Fruit-stalks* towards the ends of the branches, cylindrical, with 1 flower. *Petals* white. *Chives* 5, more rarely 10. HUDS.—Has the habit and leaves of *Sagina procumbens*, but taller. *Empalement* beset with very short hairs. VAILL.—Agrees also with *Sagina procumbens* in the form of its capsules, shape and size of its seeds, but the whole plant is beset with short hairs terminated by minute globules, very distinguishable

able when magnified; and the *petals* are as long as the *empalement*, and when fully expanded very conspicuous. CURT.

S. laricina. LIGHTF. HUDS. *Fl. dan.* (Not *S. laricina* of Linnæus. RETZ. CURT. ST. which Gmelin describes as fringed towards the base, and with alternate fruit-stalks from the upper part of the stem.—*Fl. dan.* 12, is referred also by Linnæus himself to *Stellaria biflora*, not to mention the flower-scales on the fruit-stalks. ST.)

Dry pastures in a gravelly soil. Uxbridge Moor. Isle of Bute; Cobham and Esther, Surry; Devonshire and Cornwall; Putney Heath, Coomb Wood, Surry; Bagshot Heath, Potnell Warren, near the great bog at Virginia Water.

P. June.—Aug.

END OF VOL. I.

